

# THE *Soybean Digest*



—Photo Courtesy: Hovis Bros. Hog Co. Her Favorite Dish—

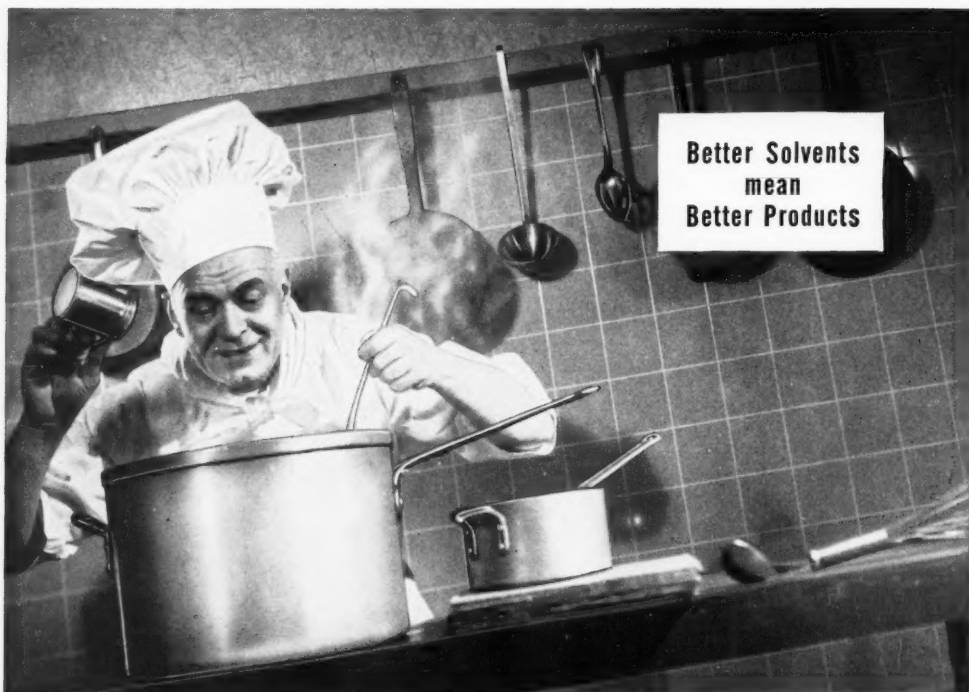
• This page 45 •

*Official Publication*

**AMERICAN SOYBEAN ASSOCIATION**

**VOLUME 1 • NUMBER 1**

**FEBRUARY • 1951**



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# THE Soybean Digest

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HUDSON, IOWA

Business, publication and circulation offices, Hudson, Iowa. Editor, Geo. M. Strayer. Managing Editor, Kent Pellett. Business Manager, Geo. McCulley. Director of Circulation, Gene Taylor.

Advertising representatives: Ewing Hutchinson Co., 35 E. Wacker Drive, Chicago 1, Ill.

Vol. 11

FEBRUARY ☆ 1951

No. 4

Published on the 10th of each month at Hudson, Iowa, by the American Soybean Association. Entered as second class matter November 20, 1940, at the postoffice at Hudson, Iowa, under the Act of March 3, 1879. Forms close on 25th of month preceding. Subscription price to association members, \$2.50 per year; to non-members, \$3.00 per year; Canada and other members of the Pan-American Union, \$3.50; other foreign, \$4.00.

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## THE AMERICAN SOYBEAN ASSOCIATION

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FEBRUARY, 1951



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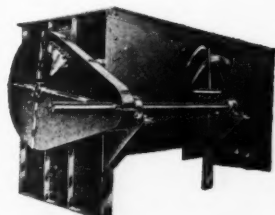
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## EDITOR'S DESK

### WHAT WE NEED IS BUSHELS OF BEANS

Soybean acreage goals for 1951 have been officially announced by U. S. Department of Agriculture. The goal for planted acres will be 13 million, the same as were actually planted in 1950.

There is no need to kid ourselves—over 2 million of last year's acres came from the reduction in corn and cotton acres. This year the government wants that acreage to go back into cotton and corn, and is doing all it can to get those 2 million acres back into cotton and corn.

This being the case, the easy way to get the desired production of soybeans, cotton and corn would be to plow up pastures, sell off livestock and forget all about good land management practice. But this new defense effort is not a one-shot affair. We may have to live with it five or 10 years or longer. So we can't treat our 1951 farm production effort as a one-shot affair either. We need to get ready for many years of high production if needed, on a sound basis.

What we need is bushels of soybeans, not acres. If the government's goal is 13 million acres, that means we'll need about 285 million bushels of soybeans. We can get that production of soybeans, plus the needed increase of cotton and corn, through increased production per acre.

Last year the national acreage yield per acre was 21.6 bushels. If we could increase the national average to just 25 bushels—through the better farming practices we now know—we could get the 285 million bushels needed from 11.5 million acres. This is not impossible! The Illinois state average in 1949 was 26 bushels per acre! D. F. Beard, while agronomist at Ohio State University, said that if all the farmers in Ohio would use the good practices they knew the state yield could be increased from 19 to 25 bushels.

It is the only sound way we have of increasing production in this country—not only of soybeans but of corn and cotton. IT'S BUSHELS WE WANT, NOT RUINED ACRES.

### SHOULD KNOW SUPPORT PRICE EARLY

The government has asked for another crop of soybeans equal to the record 1950 production. But if it wants that kind of production it will have to announce a fair support price as compared to cotton and corn. Soybeans will have to compete with corn and cotton price wise for acres.

Producers have always felt that soybeans should bring from two to two and one-half times the price of corn to be attractive from a profit standpoint. Since there is a possibility that parity may become the ceiling for farm crops, the question of parity for soybeans needs to be reconsidered by the U. S. Department of Agriculture when support prices are announced.

There has always been a doubt in the industry whether the base used by the Bureau of Agricultural Economics to establish a parity for soybeans actually reflected their true worth in relation to corn and other cash crops.

Jan. 15 parity for corn was \$1.71 per bushel, while cotton parity was about 33 cents per pound. At the same

time parity for soybeans was only \$2.72 per bushel. Producers have always felt that soybeans should bring from two to two and one-half times the price of corn in order to compete with that crop from a profit standpoint. A parity twice that of corn—or \$3.42 per bushel—would place soybeans in a better position to compete with corn and cotton per acre.

The government will have to announce a support price that will attract the soybean acreage it wants. And it will have to do so well in advance of planting time. If it does not, soybeans will lose out to corn and cotton.

### LET'S NOT "FREEZE" THE INDUSTRY

The government, through its freeze order of Jan. 26, has started a long period of wage and price ceilings. Workable or not, and as undesirable as they are in a free enterprise system, controls of some sort will be with us until production again becomes a surplus item in America.

Many felt there was no reason to apply controls at this time. But many others through a headlong rush to get pay increases or to "get ahead of the hoarders" forced the government into action.

As an industry that has to depend on selling its goods to consumers the soybean industry can't afford to be guilty of asking for the moon. Growers, handlers, processors should get together to figure out what is fair to all segments of the industry—and fair to our customers. We should work with the proper government officials to set up permanent controls that will mean a reasonable and fair profit to all. The soybean industry is too dependent on all its segments to allow one to thrive at the expense of the others.

We should always remember that the soybean industry is a growing industry. We should do all possible to allow continuation of that growth, and not let the shortsightedness of vested interests freeze the industry at status quo through government controls.

Let's work with each other and with those delegated to represent government in this period of unsettlement. That way controls should be just a little easier to take.

### TIME TO GET AT EDUCATIONAL JOB

Because of the nature of the currently announced government controls the soybean processing industry will be assured of reasonable profits. In fact, many are assured of more profits than they have made in the last two or three years.

But don't paint too rosy a picture. This profit will appear only as black ink on the books. The government through increased taxes of all sorts will drain a good share of it away.

It is true that during the stress of our defense effort our products, soybean oil and meal, should be easy to sell with just enough effort to keep each company's brand name before the public. For that reason, is not now the logical time to get behind an industry-wide promotional and public relations program?

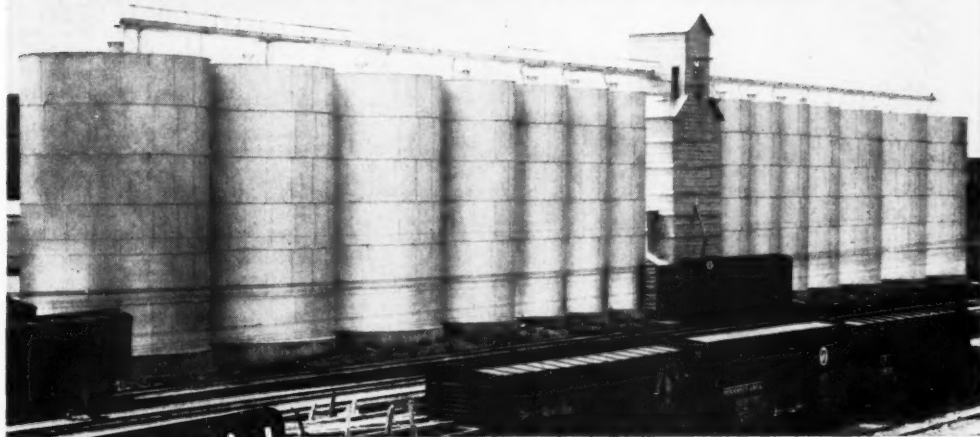
Is not now the time to use the money you aren't going to be able to keep to build a base for that consumption of 500 million bushels of soybeans or more a year that Clyde Hendrix and others have been dreaming about? Is not now the time to start a nationwide educational program to tell to the public the true and full story about soybeans?

The job will have to be done sooner or later. You will never find a cheaper time to do it.



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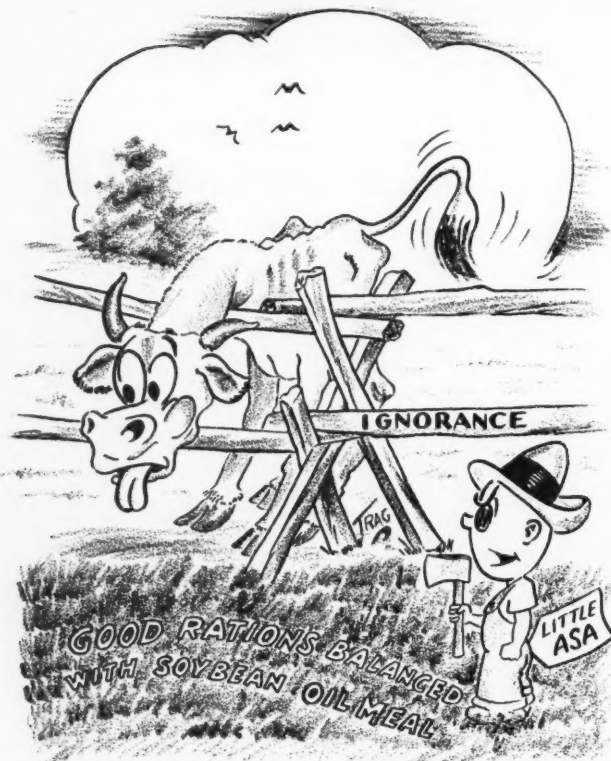
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## Let's Take That Fence Down!



## ACTIVITIES OF YOUR ASSOCIATION

### ASA Asks Stricter Grades on Soybeans

The American Soybean Association was represented at hearings by Production and Marketing Administration in late January and early February to consider the Association's proposals to amend the U. S. grading standards for soybeans.

Hearings were held at Toledo, Chicago, Decatur, Cedar Rapids, and Minneapolis. Decision by U. S. Department of Agriculture concerning possible changes in the standards will be made later.

The Association recommended:

1—Permissible moisture content on No. 2 soybeans should be lowered from 14 percent to 13 percent, other grades to correspond.

2—Permissible foreign material on No. 2 soybeans should be lowered from 3 percent to 2 percent, other grades to correspond.

ASA directors and other representatives of the Association attended the hearings. The National Soybean Processors Association and the Illinois Grain Corp. backed ASA proposals.

In asking that No. 2 yellow soybeans be allowed only 13 percent moisture content, ASA representatives pointed out that 14 percent-moisture-content soybeans are storable only for short periods, and that in warmer areas they will not stay in condition for any length of time. They said that the average moisture content of soybeans reaching the market during the past two years has been about 12 percent.

If No. 2 yellow soybeans are allowed 13 percent moisture, they will then be storable and a high percentage of all soybeans coming to mar-

ket would still classify as No. 2 beans.

Concerning the foreign material allowance, ASA spokesmen stated that the man who is bringing to market clean soybeans, free from foreign material, is being penalized to the extent of three percent at the present time. The man who is bringing to market dirty, trashy soybeans is receiving a greater financial reward than the man who is doing a good job.

ASA spokesmen stated it as their belief that the standards on No. 2 yellow soybeans should be brought back to the allowable level of two percent foreign material. Incentive for plugging of cars and trucks, and for the addition of totally irrelevant foreign material would then be removed, they said.

### Repeal Drive in Illinois

Three margarine bills as companion measures have been introduced in the lower house of the Illinois legislature by Representative Randolph of Chicago.

The first would completely repeal the present restrictions on the manufacture, sale and storage of yellow margarine in Illinois.

The second would repeal restrictions on the usage of margarine in state institutions.

The third would limit the sale of margarine in Illinois to that made from domestically-produced fats and oils.

These bills replace Bill 1 and include Bill 2, also introduced by Randolph at the opening of the present legislative session. The bills were rewritten to meet objections on constitutional grounds.

The Association committee on margarine legislation in Illinois, H. I. Cohn, Jr., Albert Dimon and Norman E. Hulcher, will work with other interested groups toward the passage of these bills.

A women's group has also been set up in Illinois to work for passage of the Randolph bills.

### At Cotton Council Meeting

Representing the American Soybean Association at the annual meeting of the National Cotton Council at Biloxi, Jan. 22-24 were Secretary-Treasurer Geo. M. Strayer, Hudson, Iowa, and Director Chester B. Bidle, Remington, Ind.

The Council looks for a 1951 cotton crop of 16 million bales. If it comes it will mean a reduction of



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soybean acreage in cotton states, with larger supplies of cottonseed meal and oil.

The cottonseed, soybean and other oilseed industries will have common problems under government controls. These will have to be met with a common front.

Strayer and Biddle sat in on a meeting of the committee on margarine legislation of the National Cotton Council, when strategy for repeal of legal margarine restrictions in those states where they remain was considered. The committee also discussed the legal restrictions on other food products that use vegetable oils.

## GROWERS

### Remington Plots Report

Lincolns outyielded all other varieties including the new Adams for early and medium planting dates on the soybean demonstration plots at Remington, Ind., according to published results for 1950.

Twelve varieties were planted at three dates in 40-inch rows on the highly fertile 10-acre field. Plots were generally 13 1/3 feet wide planted the full width of the field.

Cooperating in the project were county agents from Jasper and adjoining counties, Purdue University, the Remington service clubs and the school, and Ward Lewis, the farm owner and Ralph Wilder, the operator of the farm.

Lincoln led all varieties for mid-May and June 2 plantings. Yield advantage over the earlier maturing Hawkeye was less as the season progressed, and for June 22 planting the Hawkeye outyielded the Lincoln. As is to be expected, shorter season va-

### RESULTS OF VARIETY COMPARISON— BUSHELS PER ACRE

Varieties Certified in Indiana, Ohio, and Illinois Arranged from Latest to Earliest.

Planting Date	May 15	June 2	June 22
Wabash	—	36.6	—
Kingwa (black, hay variety)	—	29.8	—
Lincoln	41.0	39.6	33.4
Adams	—	38.9	—
Hawkeye	38.4	38	37.6
Richland	—	—	22
Earlyana	38.1	32.3	31.4
Monroe	—	38.2	—
Mandarin (Ottawa)	28.9	28.6	31.4
Older Varieties, Lincoln Maturity			
Dunfield	—	35.9	—
Illini	—	35.4	—
Manchu	—	37.6	—

rieties had yielding ability reduced less by delayed planting than did the full season Lincoln. A month's delay in planting reduced the Lincoln yield eight bushels; the Hawkeye only one bushel; the Earlyana two bushels; and the very early maturing Mandarin made its best yield when planted late. Agronomists say choice of the variety to plant in 1951 should be from these four, with Hawkeye being first choice for June planting and Lincoln for early planting. Mandarin should be used only for muck or late June planting on highly fertile soils.

In the June 2 planting the late Wabash failed to outyield Lincoln and the newly released Adams (Iowa) similar to Lincoln in maturity, failed to outyield it. The early Monroe (Ohio) was about the same as Earlyana. Older varieties of Lincoln maturity yielded 2.5 to 4 bushels less.

### Rates of Seeding

Hawkeye planted in 40-inch rows on May 16 at three, four, and five pecks yielded about the same, 37 to 39 bushels. Three pecks are the recommended rate in 40 inch rows. If rows are closer, four pecks should be sown.

Solid seedings are used by less

than one-fifth of Indiana farmers and have not outyielded row seedings under most conditions. About two bushels per acre is the rate recommended for both yield and weed control.

Wet soil conditions encouraging heavy weed growth in 1950 were a handicap to yields. Cultivation that controlled weed growth gave excellent increases. In the demonstration, soys in 28-inch rows could not be row cultivated with the equipment available and lacked the smothering effect of solid seedings with the consequent yield reduction. The rotary hoe could not be used at the best time for weed control due to heavy rains. Under such conditions solid



—Photo courtesy Seed Certification Service  
Robert Taylor, right, the 1950 Indiana Soybean Yield Champion, receives from Fred Thomas, president of Central Soya Co., Inc., a diamond-studded medal in addition to the trophy he holds. Taylor, an Arcadia, Ind., farmer, was recognized at the annual meeting of the Indiana Corn Growers' Association in Lafayette Dec. 29. He produced 51.7 bushels per acre with certified Hawkeyes, to win the 1950 yield contest. The field was planted in 40-inch rows and was inspected for certification.

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seedings aid in giving weeds more competition than narrow rows (20-inch-30-inch) but row seedings with row cultivations give a much better opportunity for weed control.

#### Fertilizer Results

On the fertile soil at Remington, differences in yields between plots whether fertilized or not, rarely exceeded one bushel. The five unfertilized plots averaged about 39 bushels per acre. No significant increase in yield was produced by phosphate and potash broadcast at 400 pounds or in the row at 100 pounds per acre, superphosphate, rock phosphate, minor elements or a spray of manganese sulphate. Magnesium sulphate, with 100 pounds of 0-20-20 in the row, produced a 2.3 bushel per acre increase over the adjacent plot with only the 0-20-20. This increase from a single trial is too small to conclude that magnesium is needed on this land but it does suggest that further trials would be desirable on land that has not been limed with dolomitic limestone, which contains magnesium carbonate.

On less fertile soils, especially those deficient in potash, fertilizer applications may be expected to give yield increases when applied in such a way that the stand is not reduced.

#### Inoculation

Hawkeye beans from inoculated seed showed an increase in yield of two bushels over the adjacent uninoculated strip.

#### Monroe Highest in Ontario

Monroe variety showed the highest yield at the Western Ontario Experimental Farm in 1950, according to the report of the Minister of Agriculture.

Later varieties were more affected by dry weather during part of the season and so were at a disadvantage, says the report. The plots were situated on gravelly loam.

For instance, Lincolns are usually the highest yielders but were fairly well down on the list last year.

Following are the per-acre yields of the 15 varieties tested:

Monroe 29.3 bu.	Lincoln 24.7 bu.
H5 Special 27.8 bu.	A.K. 24.5 bu.
O.A.C. 211 28 bu.	Cabot 23.8 bu.
Mandarin 27.4 bu.	129/29 23.6 bu.
Earlana 26.1 bu.	Hawkeye 24 bu.
Capital 26.6 bu.	Harrow 81B 23.2 bu.
Harley 26.3 bu.	Richland 23 bu.
Harmon 25.9 bu.	

Growing of soybeans has not been satisfactory at the Dominion Experimental substation at Fort Vermilion, Alberta, according to the progress report for 1948-49. Crops have frequently been frozen in the area.

Manitoba Brown and Wisconsin Black have matured earlier than other varieties tested.

#### Ogdens High in Missouri

A heavily fertilized plot of Ogdens was high yielder in the tests at Cypress Land Farms Co., Jaywe, Mo., in 1950, the farm reports. Yield of this plot averaged 42.68 bushels per acre.

Second high yielder was Patoka, with 42.01 bushels per acre; and third was S-100 with 38.22 bushels. Another plot of Ogdens was fourth with 38.01 bushels.

Nine varieties of soybeans were tested and all except Ral soy averaged above 30 bushels per acre.

The Ogdens showed the greatest weight per 100 beans. Patoka was second and Hawkeye third. Ogden also averaged the most pods on the stalk, an average of 147; Ral soy was second with 134; and Dortch- soy No. 7 was third with 124.

Hawkeye showed highest oil content, 20.06 percent; Wabash second, 19.40 percent, and Lincoln third, 19.31 percent.

It should be kept in mind that the results covered only one year and locality.



The new Minneapolis-Moline Uni-Harvester operating as a self-propelled harvester in a field of oats. The Uni-Harvester with the Uni-Combine attachment will handle all small grains, grasses, sorghums, soybeans, and in less than an hour can be changed to a self-propelled cornpicker and husker.

#### New Farm Harvester

A new self-propelled farm machine started rolling off the production lines in January in the plants of Minneapolis-Moline Co.

The initial production of this new machine will include attachments so that it can be used as a self-propelled combine or a self-propelled two-row corn picker. Other attachments, in the testing or planning stage, include a combination corn picker and shel-

# INOCULATE SOYBEANS

with



# IT PAYS

The Urbana Laboratories  
Urbana, Illinois

ler, a wire-tying baler, and a forage harvester.

The new machine will be called the Uni-Harvester. All attachments are designed for quick mounting on a power unit, called the Uni-Tractor. This is done by the use of only one bolt, two slip pins, and two spring release pins. A small hoist is available for mounting or removing the attachments and also a transport dolly on which attachments not in use may be mounted.

The Uni-Combine attachment has a nine-foot header intended to be especially useful for harvesting soybeans. The harvesting unit is reported to be similar to the 60 Harvester made by the company.

## Big Seed Producing County

Out of research and experience Mississippi County in Arkansas has not only become by far the greatest soybean producing county in the South, but also one of the greatest soybean seed producing counties in the nation.

Back in the 30's the Arkansas Experiment Station developed the Arksoy soybean. Mississippi County farmers soon found this bean profitable, and a good companion crop to cotton. It was during this period that the Burdette Plantation at Burdette, John Stevens at Dell and others started a soybean seed production program. The Blytheville Soybean Corp. was also formed and numerous smaller producers started selling seed beans to them.



Plowing under foxtail and sunflowers.

Later, research in North Mississippi County under the direction of Keith Bilbrey, county agent, showed that the Ogden soybean was the heaviest producer in this area and now, 90 percent of all soybeans in the county are Ogden or Ogden selections such as Dortchsoy 2, Hale Ogden, etc.

Producers in the county now have about 230,000 bushels of seed beans, much of it certified, says Bilbrey. This seed is mostly Ogdens and Ogden selections with some Ralsons and S-100s.

## Combined Plow-Pulverizer

The two pictures show the Roberts Soil-Master, a self-propelled farm implement that plows and pulverizes the soil in one operation.

The Soil-Master, manufactured by Roberts Soil-Master Manufacturing Co., Foley, Mo., was built to do a



Roberts Soil-Master at work on a field of freshly combined soybean straw.

heavy job in a short time and leave a perfect seedbed for planting any farm crop. It is powered with a 200-horsepower six-cylinder motor.

The machine cuts 8½ feet in width, travels from two and one-half to seven miles per hour plowing speed.

"In any soil regardless of weeds, soybean hay, cornstalks or willow sprouts, it cuts the cover crop up and evenly places it in the ground," according to John T. Roberts, the manufacturer. "It also does a perfect job in killing corn borers and finally destroys onions. The machine also packs the soil after it is plowed, ready for any type planter."

Roberts says fuel costs are 17 to 27 cents per acre, and that the machine can under normal plowing conditions plow from 30 to 50 acres per day.

"The machine is constructed to withstand long and hard service," he says.

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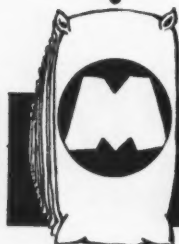
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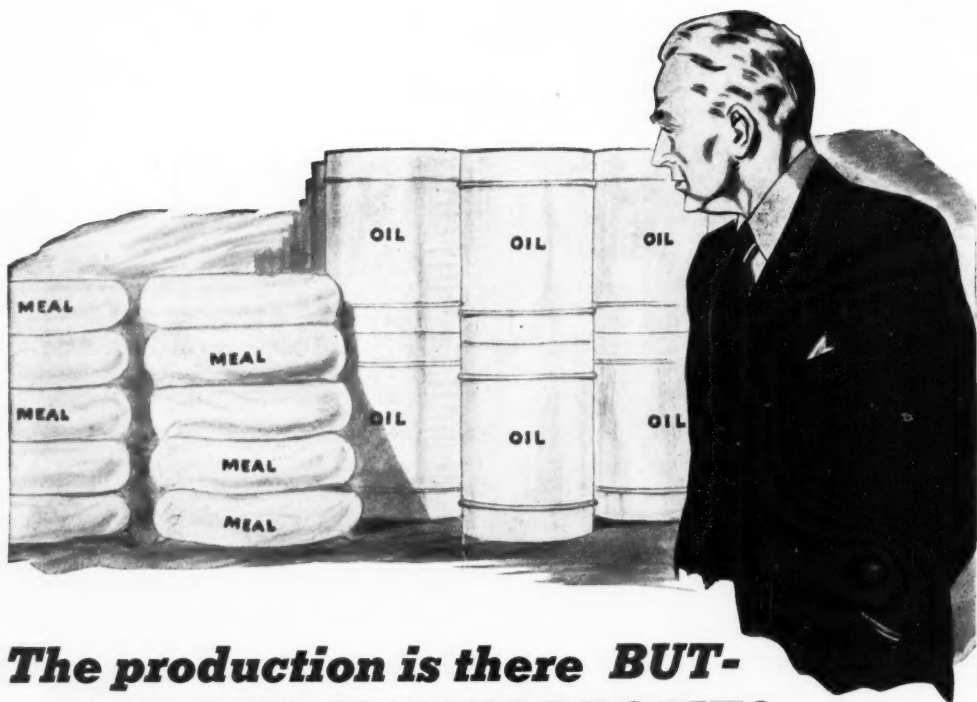


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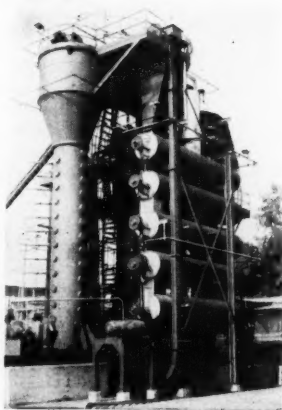
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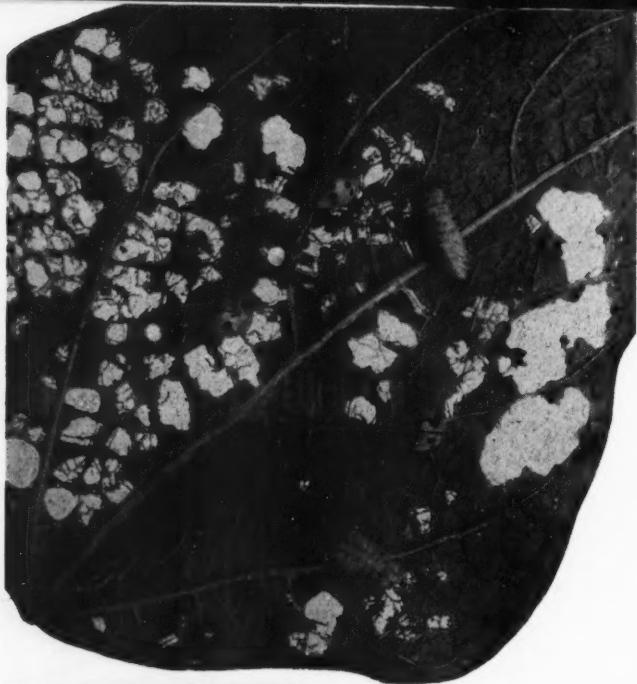
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Larvae and adults of the Mexican bean beetle and typical injury to bean leaf. Twice natural size.

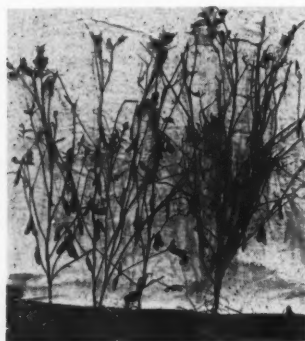
## INSECT PESTS OF SOYBEANS and their control

By C. M. PACKARD

Entomologist <sup>1, 2</sup>, Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, United States Department of Agriculture



Grasshoppers sunning themselves before going to work.



Soybeans stripped by grasshoppers.

**T**HE OLD IDEA that soybeans are less subject to damage by insects than other field crops grown in the United States has been changed considerably. In recent years a variety of insects, including grasshoppers and several kinds of beetles and caterpillars, have caused rather widespread and severe injury to soybeans as well as other crops. Soybean growers therefore need to be watchful for their appearance, and ready to apply available control methods before the damage is done. Which insects to watch for and what to do about them when they appear are the topics of this discussion.

All insecticidal sprays recommended in this paper are in dilute form and are to be applied at large gallonages per acre. Therefore, large quantities of water are required. Where water is scarce, more concentrated sprays applied in much smaller quantities would of course be desirable. Unfortunately, it has not yet been determined whether concentrated sprays will be as satisfactory as dilute sprays for some insects. Wherever the more concentrated sprays are used, the quantities of active ingredient applied per acre should not be reduced below those recommended for use in the dilute sprays.

### Grasshoppers

Grasshoppers are among the most widespread and serious pests of soy-

beans. They eat the leaves and pods and also cut off the pods. One or more of several species may attack them, depending on local conditions.

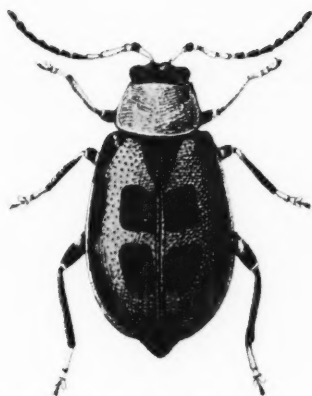
In the North Central, South Central and Middle Atlantic states the lesser migratory grasshopper, the red-legged grasshopper, the differential grasshopper, and the two-striped grasshopper are the chief offenders. In the Southeastern states the American, or bird, grasshopper is more likely to be the principal injurious species.

Grasshoppers are apt to be more numerous in semiarid climates or with a succession of dry seasons than in moister climates or seasons. They may become abundant enough to injure soybeans wherever they are grown. Whichever species are involved, the control measures are the same.

For many years the use of a poisoned bait broadcast thinly among the plants has been the standard method of control. However, sprays and dusts containing chlordane, toxaphene, or aldrin, applied to the foliage, have recently come into gen-

<sup>1</sup> Retired September 30, 1950.

<sup>2</sup> The author gratefully acknowledges the valuable suggestions made by J. H. Bigger, of the Natural History Survey Division, Illinois State Board of Natural Resources and Conservation; F. W. Poos, of the U. S. Bureau of Entomology and Plant Quarantine, and others, that were utilized in the preparation of this article.



Bean leaf beetle adult. A little less than nine times natural size.



Japanese beetle adult. A little more than four times natural size.

eral use. These sprays and dusts usually are more efficient than bait in dense, succulent vegetation such as soybeans. Sprays give higher initial kills and continue to kill grasshoppers longer than dusts. Chlordane and toxaphene are generally available from local dealers in ready-mixed emulsion concentrates, wettable powders, and dusts. The emulsion concentrates and wettable powders should be diluted with water to suit available spraying equipment. Whatever formulation is used, the quantity of active ingredient applied per acre should be increased with the size of the plants, the abundance of foliage, and the age of the grasshoppers, within the following ranges:

	In spray	In dust
Chlordane	$\frac{1}{2}$ to 1 lb.	$\frac{3}{4}$ to $1\frac{1}{2}$ lb.
Toxaphene	1 to $1\frac{1}{2}$ lb.	$1\frac{1}{2}$ to $2\frac{1}{2}$ lb.
Aldrin	2 to 4 oz.	3 to 6 oz.

Several other new insecticides have been found very effective against grasshoppers and may become available to growers. The suitability and best dosages for practical use have not yet been fully agreed upon, however, and if used the directions given on the packages should be followed.

All the above-mentioned insecticides are poisonous to man and animals. They must therefore be handled carefully in accordance with all precautions given on the containers. The leaves and stems of soybeans that have been treated with chlordane or toxaphene should not be fed to dairy animals or poultry at any time, or to meat animals that are being finished for slaughter. This precaution also applies to crops treated with aldrin less than 21 days before harvest.

Although poison bait is likely to

be less effective than a spray or dust, it may be used to advantage in crops that are to be cut for hay or pastured, since its use does not entail the residue hazard resulting from the use of sprays or dusts. One of the best baits is made according to the following formula:

Coarse flaky wheat bran	100 lb.
Chlordane	$\frac{1}{2}$ lb.
or	
Toxaphene	1 lb.
Water	12 gal.

Enough of the emulsion concentrate or wettable powder containing the insecticide as purchased from the dealer should be used to give  $\frac{1}{2}$  pound of actual chlordane or 1 pound of actual toxaphene per 100 pounds of bran. The concentrate or powder should be stirred into the

water, and the mixture applied to the bran and mixed thoroughly. The mixing can be done with shovels on a smooth floor or in a large shallow container such as a wagon box.

Six pounds of powdered sodium fluosilicate or 5 pounds of powdered white arsenic or paris green can be used in the formula instead of chlordane or toxaphene. When one of these insecticides is used, however, it is better to mix the poison thoroughly into the dry bran before adding the water.

The bait should be broadcast thinly and uniformly at the rate of about 20 pounds (wet weight) per acre early in the morning. It is usually advisable to spread bait in adjoining fields from which the grasshoppers are moving into the soybeans, as well as in the bean field. The bait can be spread by hand or with a seed-broadcasting machine mounted on the back end of a wagon or truck.

*If the bait is distributed in lumps, there may be danger of poisoning fowls or farm animals, but there is no danger if it is broadcast properly. Bulk quantities of poison bait must be kept away from farm animals and children, and receptacles used in mixing should be destroyed or thoroughly cleaned to avoid any chance of accidental poisoning. Hands and clothing must be promptly and thoroughly washed after the poison bait is handled.*

### Bean Beetles

The Mexican bean beetle has become an important pest of soybeans in the Eastern and Southeastern states. Some varieties of soybeans

Soybean leaves injured by Japanese beetles.





A field of soybeans damaged by white grubs.

Striped blister beetles feeding on soybean foliage.



are more susceptible to attack than others. The adult beetle is convexly rounded, about  $\frac{1}{3}$  inch long and copper-colored, with 16 small black spots on its back. The larva of this insect is a yellow, spiny worm about  $\frac{1}{8}$  inch long when full grown. The adults and larvae feed mostly on the undersides of the leaves, and the larvae do most of the damage.

A smaller species, commonly called the bean leaf beetle, occasionally becomes abundant on soybeans. It eats holes through the leaves. The adults are about  $\frac{1}{4}$  inch long and reddish to yellowish, with four black spots on the back and a black band around the margin of the wing covers.

In general, DDT has been less satisfactory than certain other insecticides against the Mexican bean beetle. To protect the crop against this insect and also the bean leaf beetle, when the soybeans are not being grown for hay, it is recommended that a spray containing 3 pounds of cryolite in 50 gallons of water be used at the rate of 100 gallons per acre. For control of the Mexican bean beetle the spray should be applied to the undersides of the leaves.

Good results have been obtained on snap beans with dusts containing from 60 to 80 percent of cryolite in pyrophyllite, talc, or sulfur, applied at the rate of 20 to 25 pounds per acre. Where the corn earworm is present along with the bean beetle, cryolite is more effective than rotenone for the combined control of both pests.

Although rotenone is more expensive than cryolite, it is one of the most effective insecticides against the Mexican bean beetle and the bean leaf beetle. A rotenone spray is made with  $1\frac{1}{4}$  pounds of powdered derris or cube root (5 percent rotenone) in 50 gallons of water. The powder should be thoroughly wetted with a small quantity of water and then poured through a fine strainer into the water in the spray tank and mixed thoroughly. No spreader or sticker is necessary. The spray should be applied to the undersides of the leaves at the rate of 100 to 125 gallons per acre.

A rotenone dust can be obtained already prepared. It should contain at least 0.75 percent of rotenone and be applied at the rate of 20 to 25 pounds per acre.

When the bean leaf beetle and potato leafhopper are abundant along with the Mexican bean beetle, the addition of 0.1 percent of pyrethrins to the rotenone dust will increase its effectiveness. If the corn earworm or other caterpillars and the potato leafhopper are also present, a dust mixture containing 3 percent of DDT, 0.5 percent of rotenone, and 50 percent of sulfur in talc or pyrophyllite may be used.

More detailed information on sprays, dusts, and application equipment for Mexican bean beetle control is given in U. S. Department of Agriculture Farmers' Bulletin 1624.

If a crop that is to be used for hay becomes badly infested, it should not be sprayed but should be cut as soon as practicable.

### Japanese Beetle

Where the Japanese beetle is abundant, the adults sometimes severely injure soybeans by feeding on the leaves. This beetle is nearly  $\frac{1}{2}$  inch long, about  $\frac{1}{4}$  inch wide, and shining metallic green. The hard wing covers are coppery brown. Two small tufts of short white hairs just behind the wing covers and five small patches of them along each side of the body readily distinguish this insect from other beetles.

Dusts containing 2 to 5 percent of DDT, applied at the rate of 25 pounds per acre, have been used with some success against the beetles in soybeans, but DDT spray is more effective and lasting. The spray is prepared by mixing 2 pounds of a wettable powder containing 50 percent of DDT in 100 gallons of water. It should be applied at the rate of about 75 gallons per acre. More than one application 10 days or 2 weeks apart may be necessary. Sprays containing the same quantity





Corn earworm. About  $1\frac{1}{4}$  times natural size.



Fall armyworm. A little over natural size.

of TDE (dichlorodiphenyldichloroethane) or methoxychlor have given good results against Japanese beetles on fruit trees and might be found satisfactory on soybeans.

*The leaves and stems of soybeans that have been treated with DDT or TDE should not be fed to dairy animals or poultry at any time, or to meat animals that are being finished for slaughter. There is less danger of methoxychlor being stored in the fat or excreted in the milk of animals fed on forage that has been treated with it at the above dosages.*

Some varieties of soybeans are less attractive than others to the Japanese beetle. Farmers should consult their county agent or state agricultural experiment station as to the varieties best adapted to their particular localities.

### Blister Beetles

Blister beetles are slender black, gray, or striped beetles about  $\frac{1}{8}$  to  $\frac{3}{4}$  inch long, and are active fliers. They are often injurious to soybeans in the Southern and Central states. They may appear suddenly in great numbers in limited portions of a field and very quickly strip these portions completely. They can be readily controlled by immediate application of DDT dust or spray to the infested areas as recommended above for the Japanese beetle. Very good control has also been obtained with  $11\frac{1}{2}$  pounds of toxaphene per acre in a dust or spray.

Soybeans being grown for hay may sometimes be saved from the beetles by cutting the crop as soon as a severe infestation is discovered.

### Other Beetles

Flea beetles of several species are especially numerous in the Gulf states and frequently attack soybeans. These extremely small, active beetles feed on the leaves and jump like fleas when disturbed. They may be controlled with DDT dust or spray as described for control of the Japanese beetle.

The grape colaspis has caused considerable damage to soybeans in the North Central states. This uniformly yellowish-brown beetle is about  $3/16$  inch long. The larvae which are small white grubs, live in the soil and attack the roots of soybeans and other field crops. This insect usually requires more than a year

to build up a high population. It may be prevented from doing serious damage by not planting soybeans or other legumes two years in succession on the same ground, and by plowing land to be planted to soybeans early in the fall of the preceding year.

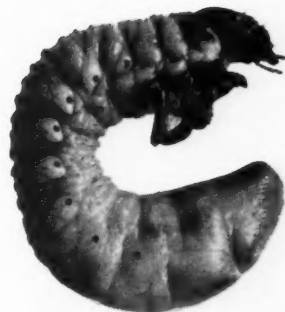
The clover root curculio, a small brownish beetle about  $1/6$  inch long with a short blunt snout, has been known to destroy soybeans planted on spring-plowed clover sod. The beetles eat off the plants as fast as they appear above the ground. No injury has been reported to soybeans planted on clover-sod ground that was plowed the previous fall or early winter. Where soybeans are to follow spring-broken clover sod, it should be well harrowed and planting should be delayed as long as possible. Treatment of the newly sprouted crop with a dust containing 5 to 10 percent of DDT might be worth a trial against this insect.

### Leafhoppers

Leafhoppers sometimes become very numerous on soybeans. One of the most important species is the potato leafhopper. This is a wedge-shaped, pale-green insect about  $1/8$  inch long, which sucks the sap out of the leaves and causes them to turn yellow and die. It is not easily seen, because it feeds mostly on the lower surface of the leaves and hides, jumps, or flies when disturbed. DDT dust or spray, as described for the control of the Japanese beetle, is effective against these insects.

A close relative of the leafhoppers, called the three-cornered alfalfa hopper, is a common pest of soybeans as well as alfalfa and many other herbaceous plants, particularly in the Southern states. When full grown it is a pale-green, humpbacked, winged insect about  $1/4$  inch long. It feeds by inserting its sharp beak in a stem, sucking out the sap, and often making a ring or girdle of feeding punctures around the stem. This causes a gall-like formation and the death or breaking off of the stem. This insect also injures the stems by making slits in them, in which it lays little white eggs.

Several of the new insecticides have been tried against it in alfalfa, but although fairly good temporary results have been obtained experi-



Common white grub. About three times natural size.

mentally with a dust containing 2 percent of parathion, no satisfactory control measure has yet been found. Parathion is extremely poisonous, and persons handling it should understand its hazards and follow carefully the precautions given on the packages.

### Velvetbean Caterpillar

The velvetbean caterpillar is a pest of soybeans in the Southeastern states only. It is the young stage of a night-flying moth and feeds on various other legumes, such as velvetbeans, peanuts, cowpeas, and kudzu. It probably does not survive the winter in continental United States, but works northward from the Tropics

Potato leafhopper adults and two types of soybeans. The hairy variety on the right is less susceptible to leafhopper injury than the smooth variety on the left. The most desirable varieties now available are all more or less hairy.





Velvetbean caterpillar on a partially eaten bean leaf. About natural size.

during the summer. In the southern portion of the Gulf states it may produce as many as three generations in a single season, but usually it is not very abundant until late summer or early fall. Late varieties of soybeans are most seriously injured, whereas early varieties may escape injury entirely.

The full-grown caterpillar is about 1½ inches long. It is usually black but sometimes green, with a green stripe down the middle of its back and from one to three light stripes along its sides. The underside is always dark. When disturbed, the caterpillars drop quickly from the plants with a rapid wriggling motion. They begin feeding on the tender top leaves of the plants, working downward and ragging the leaves or eating them and the buds completely as they go. They may eat even the tender stems and developing pods.

A heavy infestation of velvetbean caterpillars may completely strip the plants within a few days. Prompt treatment is therefore important. It may be controlled quickly with a dust containing 2 or 3 percent of DDT in pyrophyllite, talc, or a good dusting sulfur, applied at the rate of 15 pounds per acre. The precautions against feeding DDT-treated crops to animals, given in the discussion of DDT for Japanese beetle control should be observed.

Control may also be obtained by dusting soybeans with cryolite at the rate of 15 pounds per acre. A second dusting may be necessary about 10 days later to destroy the caterpillars that hatch after the first application.

Soybeans planted for hay may be saved without the use of an insecticide, if they can be cut promptly before the caterpillars ruin them.

## Other Caterpillars

The corn earworm, the green cloverworm, the armyworm, the fall armyworm, the variegated cutworm, and other climbing cutworms frequently damage soybeans by eating the foliage or young pods and seeds. Fair control of these caterpillars may be obtained by applying DDT spray or dust as recommended for the Japanese beetle, but chlordane or toxaphene spray or dust as already discussed for control of grasshoppers, probably would be more effective.

Where it is desired to destroy armyworms or cutworms without applying an insecticide directly to the plants, the application of poison bran bait as recommended for grasshoppers is suggested.

The garden webworm and other caterpillars that feed within webs are usually difficult to control with insecticides. Good results have been obtained, however, with toxaphene at 2 pounds per acre in a spray, or at 3 pounds per acre in a dust. Some success with 5- and 10-percent DDT dusts has also been reported.

*Crops treated with DDT or toxaphene should not be fed to dairy animals, poultry or meat animals being finished for slaughter.*

Pyrethrum dusts containing 0.2 to 0.3 percent of pyrethrins are effective against webworms and do not leave a harmful residue.

Early application, before the webworms have formed their webs, is helpful. When a crop being raised for hay becomes severely infested with webworms, immediate cutting may be the most practical procedure.

Grape colaspis adult, 10 times natural size.



## Red Spiders

Tiny mites commonly called red spiders are serious pests of many crops, including soybeans. They occasionally become extremely abundant on the undersides of the leaves, which they cover thinly with a fine webbing. Their feeding causes the leaves to turn yellow or reddish and reduces or stops the growth of the plants. They are especially likely to become abundant where an insecticide has been used to control some other pest.

Prompt application of sulfur is one of the best methods of controlling red spiders. A finely powdered dusting sulfur can be used alone or in combination with any of the insecticides recommended herein for the control of other soybean pests. It may be used undiluted or in the proportion of 50 percent or more as a carrier for other insecticides. In a spray it should be used at the rate of 5 to 6 pounds of wettable sulfur in 100 to 150 gallons of water per acre. A spray or dust should be applied to the undersides of the leaves. A second spraying may be necessary in about 10 days.

Several other miticides now on the market may be found satisfactory if used according to directions on the labels.

## White Grubs

The Illinois State Natural History Survey reports that in Illinois in recent years white grubs have done considerable damage to soybeans or to corn following soybeans. Most of the damage has occurred where soybeans have been grown alternately with corn. The Illinois entomologists recommend the inclusion of other crops in the rotation. Doubtless the best crop to include would be one of the clovers or alfalfa, since they are unfavorable to white grubs.

White grub injury to soybeans has also been reported from Indiana.

— s b d —

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R. G. HOUGHTLIN

# Working Together

By R. G. HOUGHTLIN

President, National Soybean Processors Association, 3815 Board of Trade Building, Chicago, Ill.

**I**N ATTEMPTING to solve the perplexing problems that have arisen as a result of the Communist aggression, the importance of industrial associations assumes greater significance. The problems of controls, price ceilings, and governmental actions focus the need for well-organized and efficient trade associations. As in the last war, associations will again serve a primary function in acting as a clearing house for the industry and a valuable contact for government in handling the problems of preparedness, or eventually complete mobilization.

Our two industries are similar in many respects. First, each of us is dependent entirely on the farmer and agriculture for the raw materials we process.

Secondly, the farmer who supplies us with our raw material, also furnishes a market for a large percentage of our production. Through his feeding operations, the farmer utilizes better than 95 percent of our soybean oil meal production, and he is also a customer for the margarine, shortening, and other edible products made from soybean oil, as well as a customer for the industrial products produced from soybean oil.

Thirdly, our industry's immediate customer for soybean oil meal is the mixed feed industry, with some 80-85 percent of our production moving directly into mixed feeds.

Fourthly, your industry is a relatively young one, and although alfalfa has been a very important crop in this country for a number of years, I believe that dehydrated alfalfa

came into prominence about the same time that soybean oil meal and soybean oil were finding markets in our economy.

Our association is also relatively young, having been organized in 1930, when the production of our domestic soybean crop totalled less than 13½ million bushels. To give you an idea of the growth of our industry during the last decade, which I believe is the same period of the rapid increase in dehydrated alfalfa production, I would like to call your attention to a few statistics.

The production of soybeans in 1940 totalled slightly more than 78 million bushels. The latest crop report covering the 1950 crop indicates a production of more than 287 million bushels.

## 400 Percent Increase

From the 1940 crop, processors utilized a little more than 64 million bushels. From the 1950 crop, the best estimates indicate a crush of some 240 million bushels.

In processing the 1940 crop, a little more than 1,500,000 tons of soybean oil meal was produced. Estimates on the production from the present crop run in excess of 5,500,000 tons.

Our 1940 production of soybean oil totalled about 533,250,000 pounds. Estimates for the production from the 1950 crop run approximately 2 billion 400 million pounds.

This year our industry will furnish about 50 percent of the domestically produced protein meals, and we will provide the largest domestic source of vegetable oils.

A brief report on the activities of our association and its general setup may prove helpful in demonstrating the methods we are using in working together toward a better industry and a brighter future.

In our association we have about 80 active members. Our members process 80 to 85 percent of the soybeans crushed domestically. Recently our constitution was amended to open associate memberships to

consumers of soybean oil and soybean oil meal. We now have a number of refiners and mixed feed manufacturers among our associate members. Our association is truly democratic. The smallest member has the same voting power as the largest processor in our group.

## Honor to Serve

The strength of an association is directly dependent on the active participation of the individual members and the smooth functioning of the individual committees of the association. We have felt that selection to serve on a committee of the association was an honor, and we have made every effort to limit committee membership to those who are well qualified to serve and who will actively participate in the program of the committee. This, I believe, is a very important fundamental. Strictly political appointees are not helpful in the over-all functioning of an association.

I should like to list briefly the committees of our association and give a few highlights on their present activities.

Our traffic and transportation committee is in constant contact with rate-making bodies and represents the association at all public hearings where rates affecting any of our industry products are involved.

Our technical committee has been especially helpful in the construction of our soybean oil trading rules. They supply the technical know-how to the practical problems confronted by soybean oil traders. They were especially helpful in setting up our refining loss system of trading. This program supplies an incentive for producing high quality soybean oil.

Our oil trading rules committee has as its function the formulation of fair and equitable soybean oil trading rules for our industry.

Our meal trading rules committee serves the same function as our oil trading rules committee insofar as soybean oil meal trading is concerned.



I might interject the statement that our associate members have proved very helpful in the formulation of our oil and meal trading rules. We believe that we have a very equitable trading rules set-up and, of course, as changes become advisable, our trading rules committees have recommended to the membership the necessary adjustments.

Proof that our trading rules are equitable to buyers and sellers is shown by the fact that practically all soybean oil and soybean oil meal trading is consummated under our association trading rules.

If a member received no benefit other than that provided him by equitable trading rules, his membership in an association would be justified. Fair and equitable trading rules pave the way for industry development on a sound basis and eliminate many of the unnecessary misunderstandings that arise when no trading rules are available to protect both the buyer and seller against inferior quality and other contractual pitfalls.

Our soybean grades and contracts committee specifically has the job of protecting the industry's interests in seeing that fair and just grades are established by the U. S. Department of Agriculture for the grading of soybeans. That committee will represent the association at the forthcoming U. S. hearings to consider revisions in the U. S. standards for soybeans.

### Crop Improvement Council

Our Crop Improvement Council has been extremely active in working with the growers of soybeans and the various university and government agencies, as well as vo-ag teachers, county agents and handlers of soybeans in making available factual information concerning the best production of soybeans. Our association has felt that this activity was important enough so that we have a full-time employee directing the program. J. W. Calland, whose headquarters are at Decatur, Ind., has directed the program for the last three years.

In inaugurating this program, we published a "bible" on soybean farming and have distributed almost 200,000 copies of that booklet and will shortly produce a revised edition. Single copies of the booklet entitled "Soybean Farming" are available free of cost by writing to the Soybean Crop Improvement Council, 3818 Board of Trade Bldg., Chicago 4, Ill.

In addition, we are publishing

four times a year, a bulletin called Soybean News, which now goes to a mailing list of some 13,000 interested people.

We have just completed a 16 millimeter sound color movie entitled Soybeans—The Feature Story, and this film, with a running time of some 27 minutes, will be given wide distribution over the soybean producing areas.

To assist us in the formulation and operation of this program of crop improvement, we have inaugurated a university advisory board. Thirteen of the country's leading agronomists represent their state universities on this very important body. Through the cooperation of this group, we believe that our program has been enriched and the local problems of each of the 13 most important soybean producing states have received consideration.

### Processor Conferences

For a number of years our association has encouraged its members to maintain close relations with the local universities and the U. S. Department of Agriculture workers in soybean research. In order to expand that interest we recently initiated our Tri-State University-Processor Conferences. Under this established program, the processors and university personnel in each of two tri-state areas—Illinois-Indiana-Ohio, and Missouri-Minnesota-Iowa—meet each year for a two-day conference. The meeting place is alternated between the three states involved and, in addition, an industry-wide meeting is held every fourth year at the Northern Regional Research Laboratory of the U. S. Department of Agriculture, at Peoria. This year's meetings are scheduled for Minneapolis on March 8 and 9, and Champaign, Illinois, on March 21 and 22.

Another very important committee is our Soybean Research Council. This group is composed of the research men of our industry, whose primary function has been to supply factual information to all segments of the trade on the properties of the products produced from crushing soybeans. They also act as a consulting group for the research programs in effect at the various universities and the Northern Regional Research Laboratory of the Department of Agriculture.

No single firm could afford to make the investment necessary to employ this group of top-notch men. Yet, through the spirit of "working together" this group has been made available, through their respective



All pull together.

**An account of the  
National Soybean  
Processors Association  
and its activities  
by its president.  
From his address before  
the American Dehydrators  
Association convention.**

company executives to perform an invaluable service for our association members and the industry.

The latest activity of our Council has been a program for determining the quality of soybean oil meal which our largest customer, the feed mixer, desires, and then following through to the industry to make every effort to supply the quality desired. This program has been extremely helpful to our members and, I believe, to the entire mixed feed trade.

The committee which we have established to work closely with the Feed Control Officials is listed as our uniform rules and standards committee for soybean oil meal. This group has done a wonderful job in working with the important feed control groups and in keeping our membership advised of any developments in the feed control set-up that would affect soybean oil meal.

Our safety and insurance committee has been of real service in en-

couraging safety in our plants and in securing proper recognition of our industry from insurance organizations.

Our lecithin committee has developed standards for lecithin, and although lecithin is not one of our primary products, it is one that has assumed growing importance during the last few years.

We also found as our membership increased that some of the very close contact, which we had enjoyed with individual members during the early days of the association, was being lost. Accordingly, we have established regional committees to serve each of the areas of processing, and we hold regional meetings from time to time to discuss local problems and to advise the members on association activities. We also find that many of those who attend the regional meetings, such as plant superintendents, buyers and others, are not able to attend our annual meetings. Thus the regional set-up does increase the interest of plant personnel in the over-all functioning of our association.

### Executive Set-Up

Just a brief outline of our executive set-up before closing. Our association is operated by a directorate of 18 members, with six members of the board elected each year to serve a three-year term. An executive committee of eight, composed of the officers of the association and four directors, is elected each year to serve as an executive body for the group.

We maintain a central office in the Board of Trade Building in Chicago. Our central office acts as a clearing house for our members and coordinates the various programs of the association. We publish a daily report to our active membership and release supplementary bulletins of importance and interest to our members. In addition, Mr. Calland, directing our crop improvement program, is located at Decatur, Ind. We also maintain Washington representation. Lastly we have a general counsel located in Chicago.

In conclusion, it is my earnest belief that every member in an industry should belong to his established trade association. The benefits derived from membership far exceed the financial costs. The spirit of working together, which is established in a well-organized trade association, is in itself well worth the investment necessary to membership.

In these precarious times, in my estimation, trade association membership is an absolute necessity to

help insure our individual development and to produce the maximum effort toward preserving our American democracy. Truly, working together is more important today than at any time in recorded history.

- s b d -

### TRI-STATE MEETING

Plans for the third annual Tri-State Conference of Processors and Agronomists on soybean production and utilization were outlined at a meeting on the Purdue University campus, Lafayette, Ind., Jan. 26. The conference will be held at Urbana, Ill., Mar. 21-22, and it is expected to attract processors and agronomists from Indiana, Ohio, and Illinois.

Hosts for the planning meeting were Dr. J. B. Peterson, head of the Purdue agronomy department, Dr. G. H. Cutler, A. H. Probst, and Dr. A. J. Ohlrogge, all of his staff.

Attending the session were Ward Calland, Decatur, managing director of the National Soybean Crop Council, and former member of the Purdue board of trustees; Dr. W. L. Burlison, head of the agronomy department at University of Illinois; Prof. J. C. Hackleman, Illinois extension agronomist; and R. G. Houghtlin, Chicago, president of the National Soybean Processors Association.

### GENERAL MILLS BUILDS

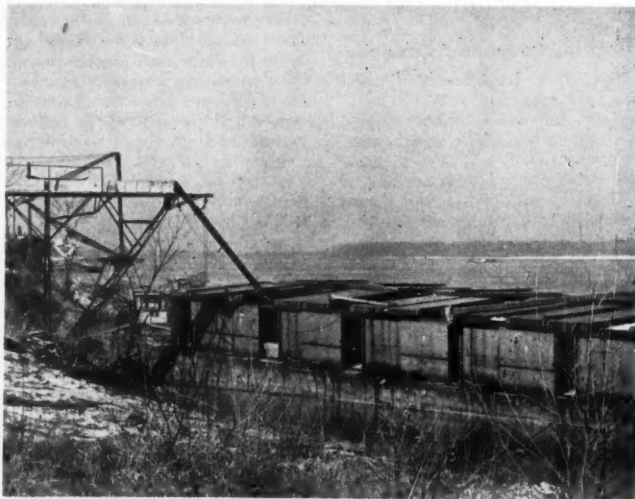
Construction of a plant to produce amines, amides and nitriles from animal and vegetable oils has been announced by General Mills, Inc., Minneapolis, Minn. Located at the company's Chemoil plant in Kankakee, Ill., the new unit is scheduled to begin pilot operation in the fall of 1951.

Designed by General Mills research laboratories, the plant follows an intensive research program. Its completion will mark General Mills' entry into the fatty amine industry.

General Mills Research Laboratories will be responsible for initial operation of the plant, according to Whitney Eastman, president of the company's chemical division. Standard products will be merchandised through General Mills' chemical sales organization, Eastman said, but new derivatives will be introduced by the new products commercial research department of the research laboratories.

"The use of fatty amines in the flotation separation of mineral ores and in other applications is growing," Eastman said. "In addition, the nitriles and amides promise to find entirely new uses through scientific development."

### Ship First Soybeans by Barge



The Missouri Soybean Co. of Caruthersville and Haiti, Mo., shipped its first barge load of soybeans from Caruthersville in December. The barge was destined for New Orleans, La., for export, and was the first barge load of beans to be shipped by river from the area. Shipment totaled 46,000 bushels of which 39,000 bushels were destined for one overseas customer. It was understood that the large order would go to Norway. The beans were loaded onto the barge by conveyor from the company's warehouse. Missouri Soybean Co. is one of the largest soybean handlers in southeast Missouri.



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Polyamide Resin Suspensoids may work their way into "wet stick" adhesives, used to fasten transparent windows in packages and to seal frozen food cartons. Here, W. A. Jordan, head of General Mills' applied research section, casts an appraising eye at a Suspensoid-coated "window."



Fred Speyer, who is responsible for introducing General Mills Polyamide Resin Suspensoids to industry, makes sure his product will heat-seal as well as he says it will in his technical literature.

## Chemical Peace Makers

(Reprinted from Progress thru Research)

**R** ESEARCHERS Harold Wittcoff and W. A. Jordan have negotiated a peace between General Mills polyamide resins and water. Their job wasn't easy, for they had to deal with two determined foes who steadfastly refused to get together.

The polyamide resins, scions of soybean oil, are naturally aloof. They will dissolve in certain types of alcohols and a few other solvents, but they are extremely choosy about their chemical associates. They will have nothing to do with common wood alcohol, for example. And like their oil ancestors, they shun water with feline determination. If you put them in a can of water, they simply sink to the bottom and lie there; if you melt them and then pour them into the water, they form

isolated little balls that refuse to spread uniformly throughout the liquid.

Since their commercial introduction in 1947, however, the polyamide resins have done well for themselves. To help bring you superior packages, for example, they are now serving as grease, oil, water and water-vapor resistant coatings for paper, foil, cellophane and other materials; they are also hard at work as heat sealing adhesives for labels, as laminating resins and as glossy overcoatings for bright, attractive cartons. In the leather industry, they are used as impregnants to improve the water and solvent resistance of hand bags, jackets and other products. And by serving as corrosion resistant coatings for metal surfaces, as modeling "waxes" and as vehicles for printing inks, they touch a broad segment of American industry.

But they could not become the dollar makers they should be as long as they refused to join water in a common effort. In their original form, they could be coated on paper or other materials in only two ways—by "hot melt" application or by solvent application.

Although both of these methods of application work nicely, they have their drawbacks. "Hot melt" equip-

ment, for example, is complicated and expensive. Solvents, too, cost considerably more than water, and most of them are highly inflammable; in some plants, they may form a serious fire hazard.

### Water Was Obvious

Water, as a carrier for polyamide resins, would obviously drown all of these problems. Nearly as cheap as the air we breathe, it is completely safe to handle. It is easy to apply with simple equipment; it is free of odor; it helps chemists control the penetration of resin into paper or plastic films, and it remains highly fluid even when it carries a high percentage of polyamide resin solids.

All of these advantages, then, left chemists Wittcoff and Jordan with one jackpot question: "How could they make polyamide resins and water join in a peaceful union?"

Harnessing their chemical knowledge to plenty of mental sweat, Wittcoff and Jordan started with a new approach. They coaxed the resin into water suspension as quietly as a dove of peace. Although their exact technique is a trade secret, their series of products is now in the pilot plant for all to see—and use. Its many-syllabled name is polyamide resin suspensoid.

**By negotiating a truce between polyamide resin, a soy oil product, and water, General Mills scientists have created a series of new heat sealing adhesives—the polyamide resin suspensoids.**

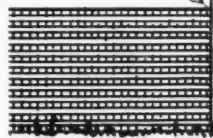


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This business of sniffin' around here and sniffin' around there, all over the landscape, lookin' fur somethin' yuh hope'll be a mite better c'n be doggone rough 'n a heap discouragin' too. Reminds me a lot o' some o' these soybean processors. Life'd be a deal simpler if they'd just order Bronoco 'n ferget this constant lookin' around. Bronoco's got th' answers t' every oil recovery problem, special 'n otherwise, 'n a complete line to meet the most exactin' specifications. All th' Bronoco customers who've taken th' hint sure improved th' quality o' their oil 'n boosted the heck out 'o their production 'n profits.

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Outwardly, the suspensoids are opaque, white liquids that look much like a vanilla malted milk. Actually, they consist of tiny particles of polyamide resin "floating" in water. These particles are so small they could lose themselves on the tip of an eyelash; some of them are less than 0.5 micron, or roughly one-50 thousandth of an inch in diameter. The largest particles seldom measure more than two microns, one-13 thousandths of an inch. If you looked at a sample of suspensoid under a microscope, you would find these tiny bits of resin evenly dispersed throughout the water.

### Stable Union

The wedding of resin and water in the polyamide resin suspensoids is an extremely happy one. It will survive repeated freezing and thawing, continued heating and vigorous stirring. The resin will not settle out even when the suspensoid is diluted with tap water to a solids content as low as 5 percent.

Although butyl alcohol will rapidly divorce the resin from the water, fairly large amounts of methyl, ethyl and isopropyl alcohol have little effect. And, with proper techniques, even the butyl alcohols and many other solvents can be introduced to produce stable suspensoids.

When you spread a polyamide resin suspensoid over the surface of paper, foil, wood or other material, it deposits an opaque film composed of millions of individual resin particles. Indistinguishable to the naked eye, these tiny particles appear to be a continuous film, but actually they are isolated bits of resin, like grains of sand on a beach. If you heat them, however, they fuse together, forming a solid, continuous film. And once fused, they will turn back water and water-vapor as well as grease, oil and corrosive solvents.

Like other forms of polyamide

resin, suspensoid films will not "block," or stick prematurely.

General Mills' pilot plant in Minneapolis is now turning out polyamide resin suspensoids of four grades.

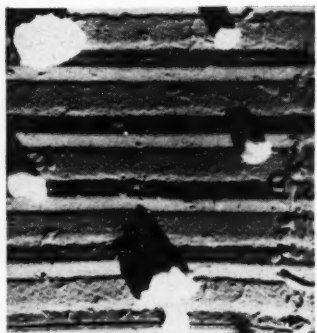
Since polyamide resins in water suspensoid form get along well with many chemicals that refuse to "co-operate" with the solid resin, they may work their way into entirely new industrial jobs. By adding resins, synthetic rubber latices and other chemical compounds, chemists undoubtedly can tailor the suspensoids for many applications.

Polyamide resin suspensoid, added to emulsions of another resin, polyvinyl acetate, for example, produces a compound with improved flexibility and increased resistance to water and blocking. It will also lower the sealing temperature and reduce the tackiness of certain synthetic rubbers, adapting them for use as heat sealing materials.

Ranging into other fields, the suspensoids show promise as components of "wet stick" adhesives, such as those used to fasten transparent windows in packages and to seal frozen food cartons. They may serve as binders for locking pigments to colored leather and as glossy, appearance-improving overcoats for lacquered leathers. As textile coatings, they may prove valuable for water-proofing and increasing the dirt and grease resistance of denim overalls, jackets, shirts, dresses. Pigmented, they may form attractive, paint-like decorative and protective coatings. Since they will bind wood, flour, sawdust, cork, paper pulp, leather and textiles, they may well aid in the manufacture of products ranging from toys to wallboard. And, of course, the suspensoids will reduce the cost, simplify the processes and increase the safety of many of polyamide resin's current applications.



Polyamide Resin is a translucent, amber-colored solid, like the piece posing at the right. It melts when heated; it dissolves in certain chemicals, and it serves as a valuable heat-sealing adhesive and coating for paper and other materials. Wedded to water, however, it is an opaque, white liquid that looks much like a vanilla malted milk. It flows freely, as the sample at the left demonstrates for the camera. Although it still serves as a heat-sealing coating and adhesive, it functions with greater ease and safety at lower cost. And it promises to go to work in a series of entirely new and profitable jobs.



General Mills Polyamide Resin Suspensoids consist of tiny resin particles "floating" in water. These particles, magnified 7,000 times, were photographed with an electron microscope.

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## HOLD HEARINGS ON SOYBEAN SPECULATION

Hearings under the Commodity Exchange Act were held in Washington, D. C., beginning Feb. 5, to consider the establishment of maximum limits on speculative futures transactions in soybeans and eggs.

The Commodity Exchange Commission, composed of the Secretary of Agriculture, Secretary of Commerce and the Attorney General, is authorized under the act to fix limits, after due notice and hearing, on the amount of speculative trading by any person in any commodity covered by the act.

Speculative limits for grains were originally established by the Commission in 1938. Such limits are enforced by the Commodity Exchange Authority.

Hearings were for the presentation of evidence as to:

1—What limit should be fixed on the maximum amount of soybeans and eggs, respectively, which any person directly or indirectly may buy or sell, or agree to buy or sell, under contracts of sale for future delivery on or subject to the rules of any contract market, on any one business day.

2—What limit should be fixed on the maximum net long or net short position in soybeans and eggs, respectively, which any person may hold or control under contracts of sale for future delivery on or subject to the rules of any contract market.

Acting for the Commission, J. M. Mehl, administrator of the Commodity Exchange Authority, conducted hearings in the Administration Building, U. S. Department of Agriculture, Washington, D. C.

Speculative activity in soybean futures, and increased commodity speculation following the outbreak of the

Korean conflict, were major problems in the enforcement of the Commodity Exchange Act in the year ended June 30 and the period immediately following, according to J. M. Mehl, CEA administrator.

Mehl issued his annual report Jan. 15. A summary follows:

"Trading in soybean futures during the year was more than 15 times the size of the crop, and the dollar volume of such trading, exceeding that of any other commodity, was 29 percent of total trading in 19 commodities in which futures trading was conducted under the act.

"The CEA checked on all accounts in soybean futures on the Chicago Board of Trade on three occasions, and each time found that most of the trading was speculative.

"The outbreak of the Korean conflict brought an influx of speculative buying in the futures markets which accelerated the rise in prices of war-sensitive commodities. A very large part of this increased trading was by speculators not directly connected with the marketing or processing of actual commodities.

"Trading in soybeans, already at a very high level, expanded still further after June 24, and other important commodities were quickly affected. In a period of a little over one month futures prices of soybeans, cottonseed oil, and lard advanced 25 percent, 31 percent, and 41 percent relatively.

"The low margin rates permitted by commodity exchanges contributed to increase the volume of speculative trading, thereby accentuating the inflationary effect on commodity prices. For most commodities speculative margin rates at the end of June ranged from 6 to 13 percent.

"Special investigatory work dur-

ing the year included surveys of floor trading practices on the New York Produce Exchange, the Memphis Merchants Exchange Clearing Association, and the Chicago Open Board of Trade. The purpose of these surveys is to enforce requirements relating to the execution of customers' orders, and the registration of futures prices.

"An average of 562 large traders made daily reports to the CEA during the year on the size and character of their futures transactions, and in addition 500 exchange clearing members reported daily on their volume of clearings and futures contracts open at the end of the day. The CEA also audited the books and records of each of 628 commodity brokers and brokerage firms registered during the year as futures commission merchants.

"The total number of futures transactions and total dollar value of trading in 19 commodities showed little change for the year ended June 30, as compared with the previous year, but there were sharp increases for some commodities, particularly soybeans, oils, and oil meals.

"Of the total dollar value of futures trading in commodities under the act, estimated at 32.4 billion dollars for the year, trading in soybean futures accounted for 29 percent, compared with 12 percent in 1948-49."

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### BUY SOYBEAN STRAW

Ball Brothers Co. strawboard plant at Noblesville, Ind., has been buying soybean straw for use in its operations during a period of a short crop of wheat straw, according to Paper Industry. The company has been having trouble in obtaining enough soy straw to maintain operations.

Use of soybean straw in strawboard manufacture has been undertaken by few U. S. firms.

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Cake — Pellets — Cottonseed Hulls  
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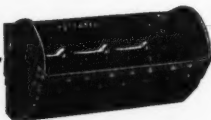
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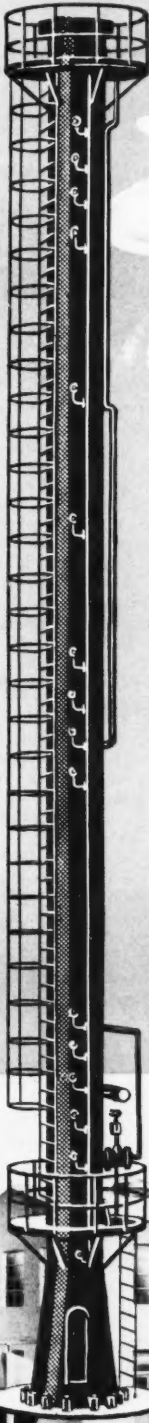


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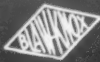
## **2. FATTY ACID DISTILLATION**

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## **3. FATTY ACID FRACTIONATION**

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## LOCAL MARKET SERVICE

A market news service giving local market information on grain by-product feeds, oilseed meals, and commercial feeds started in Minnesota on an experimental basis early in Jan. 1951, the Production and Marketing Administration, U. S. Department of Agriculture, has announced.

This project will test the feasibility of collecting and reporting supply, demand and prices on these

commodities at distributing centers where farmers buy their feeds. The reports will cover trading activities at 10 points in the principal dairy and poultry sections of the state.

The experimental service, a Research and Marketing Act project, is being tried to determine if a weekly review of local feed market conditions and prices will meet the needs of dairy and poultry producers, many of whom have requested this type of service. The report will

be sent each week to a limited number of producers who later will be asked for comments and suggestions about the service. This report will be issued from the PMA Market News Office, 116 Federal Office Building, Minneapolis, Minn.

In addition to this experimental project, the grain branch of the Production and Marketing Administration operates a feed market news service at Minneapolis as a part of its long established national program, which reports prices and market activities at major terminal markets.

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## MEMPHIS BROKER DIES

A. J. Sumner, cottonseed and soybean broker, Memphis, Tenn., died suddenly of a heart attack Jan. 14. He was 51.

Mr. Sumner was a partner in three firms which had offices in the Cotton Exchange Building. For the past five years he and J. C. Laws were associated in the brokerage firm of A. J. Sumner in cottonseed and soybean products. In addition, Sumner was a partner with W. E. Buxton and J. S. Buxton in E. E. Buxton & Co. futures market brokers and with Ferd Heckle Sr., in the Shelco Milling Co.

— s b d —

## CRODA FIRM IN N. Y.

A new company, Croda, Inc., an affiliate of Croda, Ltd., of England, will soon be in operation in New York City, according to F. A. S. Wood, a director who is in this country establishing the new firm.

A plant will be set up for the manufacture of the firm's "Hartolan" wood wax alcohols, according to Wood. It is hoped to embark soon on the manufacture of other Croda products which include detergents, degreasing agents, emulsifiers, fatty acids, wetting agents, and drying and non-drying oils.

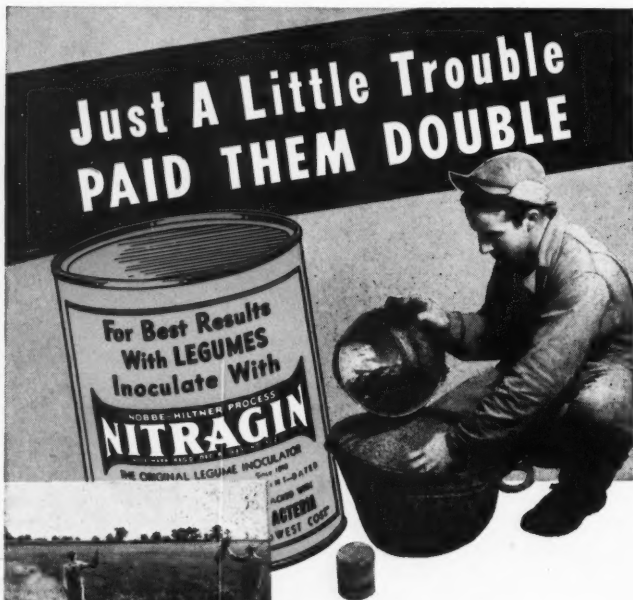
Office address of the firm will be 26th St. and Madison Ave., New York, N. Y.

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## TO OILS BUREAU

Richard G. Brierley, assistant vice president of Archer-Daniels-Midland Co., has been named a member of the executive committee of the Bureau of Raw Materials, American Vegetable Oils and Fats Industries.

As head of the soya products division of Archer-Daniels, Brierley is also vice chairman of the executive board, Soya Food Research Council. During the war he served the War Food Administration as a member of the soy food advisory committee.



Walter Latham, Ohio, proved how NITRAGIN inoculation prevents wasteful land use. Area not inoculated was a failure . . . inoculated section, a lush success. Second cutting exceeded the first.



Elmer Cheatwood, Georgia, made this two acre test. One acre's corn followed inoculated cover crop—on other acre no cover crop was used. 56.3 extra bushels of corn came from acre where inoculated cover crop had grown.

Sure, it takes a few minutes to inoculate legume seed properly. But successful crops save a lot of time and money. Seed that doesn't grow has been thrown away. Lost crops ruin rotation programs . . . waste valuable time. Don't speculate with soil and seed . . . inoculate with NITRAGIN. It boosts the stand . . . helps the land. Most agricultural authorities agree—and wise farmers insist on the regular practice of legume inoculation.

The farmers pictured at left are just a few of the thousands who know from experience the full value of inoculated legumes . . . the results they get with NITRAGIN. They think nothing of the few cents . . . the few minutes it takes to inoculate. They're after results and they get them with NITRAGIN, the inoculant in the orange-colored can. Your seedsman has it.

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A poorly packaged product is at the same disadvantage as a slovenly dressed salesman. Good appearance wins public favor, and it costs so little for your product to have it the Fulton way!

The Fulton branch near you will be glad to get your call for prices and information.

## EUROPE WILL NEED MORE FATS IMPORTS

Except under stress of grave international emergency it seems unlikely that any further expansion either in oil crops or animal fats in Western Europe will keep pace with population growth, says Robert M. Walsh, deputy director fats and oils branch, Production and Marketing Administration, Washington, D. C. Walsh recently studied the oilseed situation in Europe for the Organization of European Economic Cooperation, European counterpart of ECA. His report is contained in USDA's Nov. 1950 issue of Marketing Activities.

Europe will become more rather than less dependent on imports for its supplies of fats, according to Walsh. During the war and early postwar years production of oilseeds was actively encouraged by European governments when imports were curtailed.

Soybeans are not yet popular as an oil crop in Europe or North Africa, says Walsh. Some experimental work is being carried on as far north as Sweden, but no varieties have been found that will give dependable yields of mature beans in the northern part of Western Europe where the cool climate and long day length are limiting factors.

Some soybeans are being grown commercially in parts of southern

France, northern Italy, Austria and along the Black Sea coast in eastern Turkey. But total production in the whole area in 1949 was only a few thousand tons. Commercial varieties to date are not well adapted to the areas where grown, and yields have been low. Insufficient mechanization also is impeding expansion of the crop.

Possibilities exist for further expansion of oilseed crops in southern France, Turkey and Morocco. Commodities that appear to offer the most promise for these areas include sunflower seed, soybeans and safflower seed. At present the existing varieties of these crops are not well adapted.

The United States is contributing significantly to European imports of oilseeds today, says Walsh. But in view of the continued scarcity of dollar exchange, non-dollar sources of supplies are being used to their fullest extent. The important thing for American producers and exporters of fats, oils and oilseeds to watch is the trend in export supplies from other areas of the world.

### World Flax Crop Equals '50

World flaxseed production for 1950 is estimated at 140.7 million bushels, reports the Office of Foreign Agricultural Relations, U. S. Department of Agriculture.

This compares with 139.4 million bushels in 1949.

Canada's 1950 flaxseed crop, estimated at 4.5 million bushels, is al-

most double the 1949 output. Mexico harvested 1.4 million bushels compared with 2.0 million in 1949.

Turkey's 1950 flaxseed production of 1.4 million bushels was about equal to that of a year earlier. India's 1950 flaxseed crop was 17.0 million bushels. Argentina's 1950 flaxseed production is estimated at approximately 30 million bushels compared with around 25 million in 1949.

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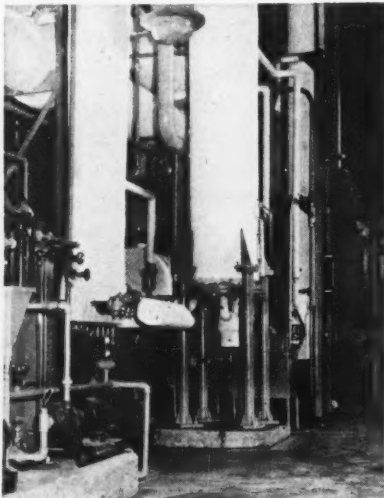
### SOY QUEEN IN SOUTH



—Photo courtesy the Alton Route

At left is Miss Josephine DiBlasi, queen of the 1950 Soybean Festival at Mexico, Mo., who with her sister, Miss Jennie DiBlasi, is enjoying the palms and sunshine of Mobile, Ala. Crowned in ceremonies at the Mexico Festival, Miss DiBlasi received as a reward a trip to Mobile, the Gulf Coast and New Orleans.

## OILSEEDS



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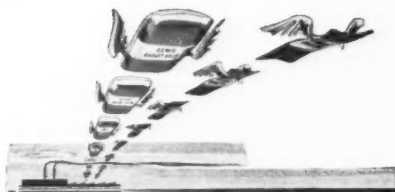


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## PUBLICATIONS

### Tempeh Was a Boon to War II Prisoners

Workers at the Institute of Technology, Delft, the Netherlands, have tried to discover why the fermented soy food known as tempeh (also spelled tempe) is so much more digestible than whole soybeans. Tempeh is consumed in great quantities in Indonesia, particularly in Java, and is easily digested by patients with digestive complaints.

It is well known that whole soybeans do not soften well during cooking and are difficult to digest. During the war the consequences of this rather harmful property of the soybean were seen in many prisoner-of-war camps in southeast Asia.

In World War II the soybeans (which were well nigh indigestible for undernourished prisoners of war) were made into tempeh in many P.O.W. camps in Java and on other islands. Even patients with dysentery and nutritional oedema were able to assimilate it. A great advantage of this product is that less nutrients are lost in the process than in the preparation of soy curd.

Tempeh kedele is made as follows: The beans are soaked for a night or longer, peeled and then cooked for a short while. They are then in various ways inoculated with the fungus and wrapped up in banana leaves or other large leaves. The fungus develops great heat as it grows.

The product is ready after 48 hours. The mass of beans is penetrated and surrounded by a dense network of white mycelium which makes it a cohesive cake. Apart from the fungus there are numerous

bacteria and yeasts in the tempeh, but the investigators did not gain the impression that these are of much importance in the process. Tempeh protein is of excellent quality and supplements well the protein of rice.

The workers studied the changes brought about by the soaking, boiling and peeling of the beans as well as the chemical composition induced by the fungus. They found that the greater part of the soluble carbohydrates disappeared, and that there were changes in the total amounts of proteins, fats and minerals.

The process of molding caused the fat content to decrease, and hemicellulose decreased by about half. More than half of the original protein was broken down into water soluble products.

**THE INFLUENCE OF THE TEMPEH FUNGUS ON THE SOYA BEAN.** By A. G. Van Veen and G. Schaefer, Laboratory of Biochemistry, Institute of Technology, Delft, the Netherlands. Documenta Neerlandica et Indonesica de Morbis Tropicis. Vol. 2, No. 3, Sept. 1950.

#### Protein Therapy

A protein supplement has been found to be a highly effective therapy in the dietary treatment of chronic peptic ulcer, according to specialists.

The protein supplement used in the study consisted of 60 percent protein. The protein was derived from the milk proteins casein and lactalbumin, and a small portion from egg albumin and soybeans.

RESULTS OF PEPTIC ULCER

**TREATMENT WITH PROTEIN SUPPLEMENTS.** By Lester M. Morrison, M. D., College of Medical Evangelists Medical School, Los Angeles, Calif. The Review of Gastroenterology, New York City. Nov. 1950.

#### Fatty Acids

A new method of fractionating mixtures of fatty acids on the basis of their degree of unsaturation has been found in extractive crystallization with urea.

On a laboratory scale, this new method has been applied to various mixtures and the possible applications shown. In probably the most promising application, this method readily removes stearic and oleic acid from their mixtures with polyunsaturated fatty acids and gives a raffinate of high iodine value.

Raffinates can thus be obtained from soybean acids which, when converted to the triglycerides, have drying properties as good or better than linseed oil.

**SEGREGATION OF FATTY ACIDS AND THEIR DERIVATIVES BY EXTRACTIVE CRYSTALLIZATION WITH UREA.** By Herbert A. Newey, Edward C. Shokal, Albert C. Mueller, and Theodore F. Bradley, Shell Development Co., Emeryville, Calif.; and Lloyd C. Fetterly, University of Washington, Seattle, Wash. Industrial and Engineering Chemistry, Washington, D. C. Dec. 1950.

#### Solvent Process

A readable four-page circular of interest to industrial users of oilseed solvent-extraction processes presents in English units data on the boiling point-vapor pressure-composition relationships for miscellas of crude cottonseed and peanut oils with commercial hexane. These data were obtained by chemical engineers of the

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Southern Regional Research Laboratory, and are now presented in a convenient form for use by designers and operators of solvent-recovery equipment.

**BOILING POINTS OF COTTON-SEED AND PEANUT OIL MISCELLANEOUS IN ENGLISH UNITS.** AIC-257. Mar. 1950. By Kenneth M. Decossas, Harvey A. Mackey and Gordon P. Heughan. Southern Regional Research Laboratory, 2100 Robert E. Lee Blvd., New Orleans 19, La.

### Antibiotics

Feeding new antibiotics such as aureomycin, penicillin and streptomycin, increased growth rate of pigs on pasture as much as 18 percent and saved up to 11 percent of feed required to make 100 pounds of pork in tests at the University of Missouri.

Two separate feeding trials involving 180 pigs were conducted by the Missouri Agricultural Experiment Station last summer. In these trials with growing fattening pigs addition of the three B-vitamins, riboflavin, calcium-pantothenate and nicotinic acid, as well as 5 percent brewer's yeast to a ration of corn and soybean oil

meal gave only slight increases in rate and efficiency of gains.

In general, rations containing the higher concentration of antibiotics gave most satisfactory results.

Most rapid and efficient gains were made by pigs which received aureomycin and penicillin in their rations. A ration containing both soybean oil meal and tankage produced as rapid gains as the rations containing streptomycin but gains were less economical.

**ANTIBIOTICS IN LIVESTOCK FEEDS.** by A. G. Hogan. **RATIONS FOR GROWING AND FATTENING SWINE.** by A. G. Hogan, J. F. Lasley and L. F. Tribble. Fourth Annual Fall Livestock Day, Missouri Agricultural Experiment Station, Progress Report 11. Columbia, Mo.

### Edible Fats

**WORLD SUPPLIES AND REQUIREMENTS OF MILK AND EDIBLE FATS.** Sept. 1950. Food and Agriculture Organization of the United Nations, 1201 Connecticut Ave. Northwest, Washington 6, D. C.

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When you write to our advertisers be sure to mention the Soybean Digest.

## BOOKS

### Story of Farm Machinery


Remember the kind of farm machinery you used as a boy?

You'll find many of your old favorites pictured in the new book, *Land of Plenty*. It tells, for the first time, the complete story of farm mechanization—from the slave-powered crooked stick to the modern tractor.

Nearly half of the book is devoted to 163 historical photographs and 13 drawings, sorted from thousands of prints in the files of 222 farm machinery companies, plus other historical sources.

*Land of Plenty* tells how the man on the farm has progressed from a muscle worker commanding only 1.6 horsepower in 1870, to a director of engines and machinery, commanding 33 horsepower.

**LAND OF PLenty.** 68 pages profusely illustrated. 25 cents. Farm Equipment Institute, 608 S. Dearborn St., Chicago 5, Ill.



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Ability to coat legume seeds with the right strains of live, potent, nitrogen-fixing bacteria is the first requirement of an inoculant. In this respect, no brand now available can claim to give you better performance with your soybeans, or any other legumes, than



**LEGUME-AID**

The unique pliofilm lined package delivers bacteria alive and vigorous. The finely ground humus base covers seed thoroughly yet never clogs the drill. The generously sized carton contains enough inoculant to thoroughly treat five bushels of soybeans.

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# GRITS and FLAKES...

FROM THE WORLD OF SOY

Mr. and Mrs. Clyde Hendrix have been honeymooning in Arizona. Hendrix is vice president of Pillsbury Mills, Inc., and has charge of the firm's feed and soy division at Clinton, Iowa. Mrs. Hendrix is the former Gladys Pedersen of Clinton.

R. S. Aries & Associates, 400 Madison Ave., New York 17, N. Y., announces the formation of a new statistical engineering division. Under the direction of Frank N. Culpepper, Dr. David B. Hertz and Dr. Sebastian B. Littauer, the division will specialize in the application of statistical methods to the process industries.

Swift & Co.'s cottonseed and soybean processing plant at Blytheville, Ark., as well as other Blytheville electrical installations, is featured in an article, "Contractor's Success Keyed to Electrical Control Specialization," in Nov. 1950 Electrical South.

*Dr. William R. Hinshaw, president of the Poultry Science Association, has appointed Dr. Charles W. Upp, head of the poultry department at Louisiana State University, to the Ralston Purina fellowship committee. He will serve for two years.*

"Upstart Crop" in Nov. 11 Missouri Ruralist features soybean production in southeast Missouri, with special attention to O. H. Acorn Farms at Wardell, Missouri Soybean Co., Hayti, and other firms of the area.

W. D. McLean, assistant director of the jute department of Bemis Bro. Bag Co., Boston, recently returned from a five-week, round-the-world trip to India and Pakistan. It was his second trip to India within a year. His purpose both times was to get more burlap for U. S. users.

Jess P. Humpton, former executive secretary of the Pennsylvania Milers' and Feed Dealers' Association, has joined the jobbing and purchasing department of John W. Eshelman & Sons, manufacturers of "Red Rose" feeds, Lancaster, Pa.

*Tipp's pneumatic cooling system is described in Bulletin No. 82 and may be obtained from Tipp's Engineering & Supply Co., P. O. Box 213, Memphis, Tenn.*

Earle G. Harding, Longmont, Colo., was recently appointed to the sales staff of H. M. Shanzer Co., San Francisco, Calif. He will cover Colorado, Wyoming, western Nebraska, western Kansas and the Panhandle section of Oklahoma.

Food Distributors Association of Illinois, 105 W. Monroe St., Chicago 3, Ill., has changed its name to Illinois Retail Grocers Association, according to Harold P. Echternach, secretary-manager.

John E. Peterson, formerly divisional engineer at the Link-Belt Co.'s Pershing Road plant in Chicago, has been appointed managing director of Link-Belt Africa, Ltd., at Springs, Transvaal.

*J. F. Davis, traffic manager of the Babcock & Wilcox Tube Co., Beaver Falls, Pa., has been elected to serve as a member of the motor transportation advisory committee for the Pittsburgh area.*

Buhler Bros., Inc., moved to a new location at 2121 State Highway No. 4, Fort Lee, N. J., Feb. 1. Buhler industrial manufactures include equipment for preparing all types of oilseed for pressing or extraction.

Glen G. McLroy, Irwin, Ohio, was featured on the cover and in the lead article of Dec. 1950 Chemurgic Digest. McLroy is a former president and member of the board of directors of the American Soybean Association.

Multiwall Packaging Guide, a 20-page booklet describing and illustrating

## BOWERS RETIRES



HENRY S. BOWERS

Retirement of Henry S. Bowers as director of Archer-Daniels-Midland Co. was announced by T. L. Daniels, president of the Minneapolis firm.

Bowers was a member of ADM's original board of directors elected when the company incorporated in 1923. He has served continually in that capacity during the past 27 years.

As a partner in Goldman, Sachs and Co., New York banking firm, Bowers has also served as director of Minneapolis-Moline Power Implement Co.; Endicott-Johnson Corp.; Jewel Tea Co.; S. H. Kress and Co.; Champion Paper and Fibre Co.; United Biscuit Co. of America; and Kelsey-Hayes Wheel Co.

Sale of the company's Portland, Oregon flaxseed plant was also announced at the January board meeting. Daniels explained that recent geographical shifts in flaxseed production would make future operation of the plant unprofitable. Purchaser is David Fain of the California Bag and Metal Co. of Portland.

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## HEADS EXCHANGE

Ed Jappe, secretary-treasurer of Marianna Sales Co., cottonseed and soybean products firm, became the new president of Memphis Merchants Exchange, Jan. 13, when he was elected without opposition. He succeeds Ralph W. Farmer, traffic manager of Royal Staf-o-Life Mills.

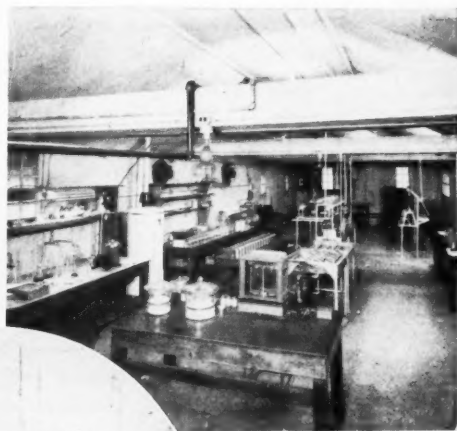
C. G. Robinson was elected vice



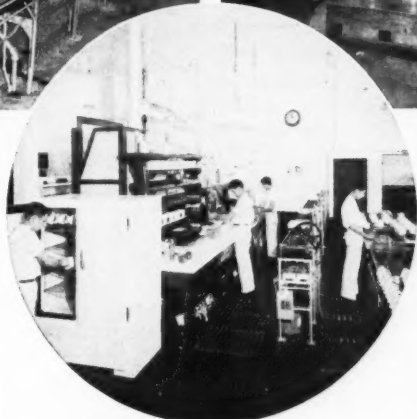
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The Decatur, Ill., laboratory is equipped with the most modern equipment for refining soybean oils.



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The Oil Refining Department at the Memphis, Tenn., laboratory, with a capacity of 150 refinings daily.

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ways to use all types of multiwall paper bags more efficiently, is being distributed by Bemis Bro. Bag Co., 408 Pine St., St. Louis 2, Mo.

Bamag Ltd., Rickett St., London, S. W. 6, has published a new folder describing the firm's activities in the design, construction and installation of oil processing and other types of plants.

A fire in the new warehouse of the Sikeston Cotton Oil Mill, Sikeston, Mo., damaged more than a million dollars' worth of soybeans Dec. 27. Origin of the fire was not determined, according to Manager P. B. Bartmess.

Earl M. Dean was reelected president; M. G. Fabricius, vice president; and Earl L. Dickinson, secretary-treasurer of the North Iowa Co-op Processing Association, Manly, Iowa, at its recent annual meeting. Glen Pogeler is manager of the Association.

Wholesale division of H. W. Walker & Co., 918 Armitage Ave., Chicago 14, Ill., handler of soy foods, has been sold to Wm. H. Leahy & Co., Inc., at the same address.

Dr. Charles C. Ferrari, who was in charge of the chemical research division of General Mills, Inc., and later assistant to the vice president in charge of research for Standard Brands, Inc., has joined the J. R. Short Milling Co. as technical director.

Eriez Manufacturing Co., Erie, Pa., has issued Bulletin 202 on the "Eriez Magnetic Pipeline Trap." This pressure-tight device is used in the food, chemical, and other industries to remove tramp iron from pipelines carrying liquids and semi-liquids.

Armco Steel Corp., Middletown, Ohio, has issued an extension bulletin outlining how to make farm buildings, machinery and equipment last longer.

Agricultural Services, Inc., Minneapolis, has been appointed distributor for Seedburo Equipment Co., Chicago. Owners of the firm are D. W. Jimmerson and O. E. Thorbeck.

Andrew K. Kolar, Link-Belt Co. district manager at Moline, Ill., has been appointed assistant sales manager for Pershing Road Plant products of Link-Belt, with offices at 3000 W. Pershing Road. Stuart T. Penick, district engineer at Dallas, Tex., succeeds Kolar at Moline.

A. A. Bame of Industrial Soya Co., Toledo, Ohio, announces that he is no longer connected with B. J. B. Grain Co., and is devoting his full time to the operation of Industrial Soya Co.'s grain elevator. Paul Meyers is assistant manager.

Frank J. Danner, general traffic manager of Chase Bag Co. for more than 25 years, has retired. He is succeeded by A. P. Ellerbrock, his assistant.

president. Eight directors were selected from 16 contestants: Fred C. Lovitt, R. W. Farmer, Ferd Heckle, Jr., D. J. Guillory, Lee Canterbury, J. S. Buxton, W. R. Flippin and C. P. Reid.

Thomas W. Staley, president of Staley Milling Co., Kansas City, Mo., and chairman of the board of American Feed Manufacturers Association, spoke at the luncheon which followed the election.

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## HAFNER PROMOTED



FRED H. HAFNER

Appointment of Fred H. Hafner as a vice president of the chemical division of General Mills has been announced by Whitney H. Eastman, division president.

Hafner joined General Mills in 1946 in new products commercial research. In his present position he directs the purchase of soybeans and sale of soybean oil meal for General Mills processing plant at Belmond, Iowa. He will direct similar activities for a new soybean plant to be erected at Rossford, Ohio.

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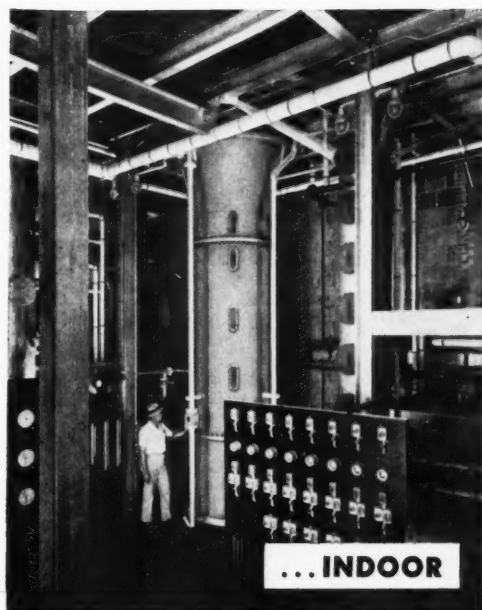
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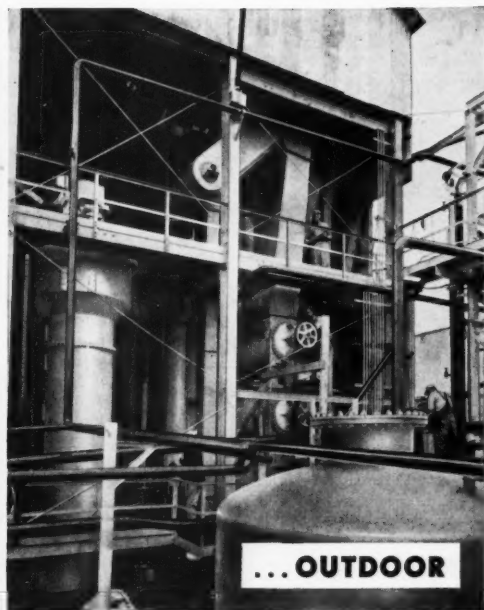
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Soy bean oil extraction plant located in Tennessee



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Rice bran oil extraction plant in Southern Texas

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WHEN YOU CALL on Allis-Chalmers for a continuous solvent extraction installation, you get a plant that's *individually designed* for your own particular application.

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Most climates call for a totally-enclosed installation . . . to protect workmen and machinery against snow and cold weather. Warmer climates permit the planning of an outdoor installation . . . with only a portion of the machinery being sheltered. Allis-Chalmers has designed and supervised the erection of continuous solvent extraction equipment for both indoor and outdoor plants.

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Recognized as a pioneer in the solvent

extraction field, Allis-Chalmers was the *first* manufacturer in the nation to provide American-made equipment to American mills for the continuous solvent extraction of soybean, cottonseed, corn germ, and rice bran oils. With this experience, A-C has gained a merited position as an authority on solvent extraction equipment and techniques.

## PAYS FOR ITSELF

It is an established fact that continuous solvent extraction equipment *pays for*

*itself* in a few short years . . . by recovering 4 to 7 per cent *more* vegetable oil than can be obtained by screw press or hydraulic methods.

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A-3257

# ALLIS-CHALMERS

Pioneers in the Field of Continuous Solvent Extraction

The Buffalo Electro-Chemical Co., Inc., Station B, Buffalo 7, N. Y., has released a 16-page data sheet on the "Modification of Starches, Proteins and Gums with Peroxygen Compounds." It concerns the modification of these products for various processes including preparation of sizing and adhesives.

Oliver A. DeCelle, formerly of Inflico, Inc., has been appointed director of sales by B. F. Gump Co., Chicago, engineers and manufacturers of chemical feeders, weighers, sifters and packaging equipment.

A. L. Buxton, president of Kentucky Chemical Industries, Inc., Cincinnati, Ohio, died Dec. 20. He has been succeeded by R. W. MacGregor as president. M. H. Longmire is vice president and E. E. Kurzynski is vice president and secretary of the firm.

*Hydraulic Controls, New Efficiency in Tractor Farming is a new 16-page booklet issued by J. I. Case Co., Racine, Wis.*

Arthur J. Falkenberg, secretary-treasurer of American Mineral Spirits Co., Western has been invited by the National Oil Mills Association to give an address at their meeting Mar. 10 and 11 at Los Angeles. His address will concern "Solvent Extraction of Vegetable Oils."

Atlas Mineral Products Co., announces the publication of their new Corrosion Proof Linings Bulletin No. 4-1. This bulletin describes Atlas' complete line of corrosion proof linings. Write to 42 Walnut St., Mertztown, Pa. for your copy.

J. C. Laws, partner in the firm of A. J. Sumner, dealers in cottonseed and soybean products, with offices at 622 Cotton Exchange Building, Memphis, Tenn., will operate the firm under his own name. Mr. Sumner died January 14. Mr. Laws and Mr. Sumner had been partners for the past five years.

*Farmers Cooperative Association, Ralston, Iowa, has added an Anderson Duo-Expeller to the two Expellers already operated by the firm.*

T. R. Mangelsdorf has been appointed sales manager of the Omaha sales division of Bemis Bro. Bag Co. He joined Bemis in 1942 as a salesman at Omaha.

R. J. Stevens has been assigned as special representative of Chase Bag Co.'s Chicago general sales office. He has a broad background in both sales and manufacturing of textile and paper containers.

Dr. J. L. Milligan has joined the Ralston Purina Co. as manager of the poultry research division. He was recently awarded a Ph.D. in poultry nutrition at Maryland, and has been employed by the poultry section, Bureau of Animal Industry, U. S. Department of Agriculture, Beltsville, Md.

*Harrison B. Rue, in charge of Chase Bag Co.'s Memphis sales office for the past four years, has been appointed sales manager of the Company's Buffalo, N. Y. branch. His successor at Memphis will be H. J. Uldricks who was transferred from the Chase branch in Philadelphia.*

## SPEARS, RIEPMA HEADS OF MARGARINE GROUP

The National Association of Margarine Manufacturers has announced the appointment of Siert F. Riepma as executive vice president of the Association, succeeding Paul T. Truitt, who has resigned as president of the Association to become president of the American Plant Food Council. Riepma's appointment is effective Mar. 1. He has served as assistant to the president the past four years.

Robert G. Spears, of the Jelke division of Lever Brothers, New York, will serve as president of the Association, without salary.

Truitt has been president of the Margarine Association since 1943.

He succeeds the late Clifton A. Woodrum, for 23 years a member of Congress from Virginia, who died Oct. 6. The Council is a fertilizer trade association composed of companies primarily interested in the manufacture of plant foods used in crop production.

Before joining the Margarine Association, Riepma was an official of the War Assets Administration and the Board of Economic Warfare and had held other government posts.

"We are sorry indeed to lose Mr. Truitt and wish him every success in his new position," Spears said. "He has done an outstanding job for the industry."

"We know that Mr. Riepma will carry on the Association's work in a most capable manner. He has worked closely with Mr. Truitt and has contributed much to the success of the Association."

"We feel also that the trend towards elimination of anti-margarine legislation, which has been accelerated during the past few years, will continue."

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# WASHINGTON DIGEST

**PRICE FREEZE.** Big significance of the price freeze is an apparent decision of the Administration not to attempt any major rollbacks in agricultural commodity prices.

A few rollbacks may come later, on a selective basis. Legislation to authorize subsidies also will be asked.

But the dominant view here is that the Administration has made up its mind to try to live with prices at around current levels. Any rollbacks would be relatively minor, and in the form of adjustments from the freeze period into dollars-and-cents ceiling controls.

The original plan was to roll prices back to Jan. 2 levels for those commodities above the minimum legal ceilings. Defense Boss Charles Wilson favored this. But the plan was given up at the last minute in favor of a freeze at the highest prices prevailing between Dec. 19 and Jan. 25.

*Sale of raw products from the farm is not controlled at all—on ANY farm commodity.* Later, when actual ceilings are worked out, grade and location differentials reaching down to farm sales in a county will be established for soybeans, flaxseed, and other major grain products.

The extent of confusion following the initial price freeze is as great as forecast by many of the price officials themselves. Literally thousands of questions remain to be answered. And the answers won't be available until a price staff is built up and actual commodity ceilings are established.

Officials would rather have waited

until ceilings could be determined, commodity by commodity, and an organization to handle them set up. But the pressure to "do something" was too great.

The freeze order classifies farm products into three groups:

1—Those whose prices are completely controlled beyond the point of farm sale. These include red meats, cotton, cottonseed, wool, and rice.

There is no limit on the price at which the farmer can sell. But there is a solid freeze on all product prices beyond the farm. No prices can be raised legally above the highest received from Dec. 19 through Jan. 25—even though cost of the farm product should go higher.

2—Those whose prices are partially controlled beyond the point of farm sale. These included soybeans in the initial order, corn, wheat, the other feed grains, poultry and dairy products, processed fruits and vegetables.

Margins only are frozen in this class. Processors, handlers, and others can pass on only the increase in cost of the raw product, but cannot increase profit margins.

3—Those whose prices are totally exempt from the price freeze at any point of sale. These included fresh fruits and vegetables, hay and pasture seeds, tree nuts, and 40-odd minor oilseeds, nuts and their products.

Soybeans were not expected to remain long in the second classification. Prices were pushing up close to the legal minimum ceiling within a few days after announcement of the freeze order.

By **PORTER M. HEDGE**

Washington Correspondent for  
The Soybean Digest

Soybean products will be put in the "solid" freeze class as soon as the Secretary of Agriculture determines, and issues in published form, that the price to growers has reached the minimum level—\$3.06 a bushel, U. S. average.

The \$3.06 legal minimum ceiling was arrived at by the following method:

The average price for soybeans at Illinois country points, for the five days centered on June 15, was established at \$2.901 a bushel. The highest price at Illinois country points during the May 24-June 24 period was established at \$3.165 a bushel. The difference between the two is 26 cents.

The average U. S. farm price for June 15, as reported by the Bureau of Agricultural Economics, was \$2.80 a bushel. The 26 cents was added to this to get the \$3.06 legal minimum farm price.

The same method probably will be used in deciding when the farm price for soybeans has reached the \$3.06 minimum, using Jan. 15 average prices for both farm and Illinois country points instead of June 15.

An apparent differential of 22 cents over the average farm price is allowed to get Chicago prices. But in deciding when to put soybeans in the completely controlled class of products, the Illinois country point prices, adjusted to average farm prices, will be the controlling factor.

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When soybeans go into the "solid" freeze category, every processor, handler, and retailer of soybean products will have his own temporary ceiling. The price of no product made from soybeans could then be raised above the highest received during the December-January period, or offered for sale in writing.

A check with USDA market news service immediately after the freeze showed these to be the highest quotations reported officially here during the Dec. 19-Jan. 25 period for soybeans, meal, and oil:

Soybeans \$3.26 $\frac{1}{4}$  at Chicago, and about \$3.15 at Illinois country points, Jan. 23 price.

Soybean oil meal at Decatur, \$71 bagged in carlots, \$67.50 bulk, Dec. 26 price.

Crude soybean oil at midwest mills 21 $\frac{1}{8}$  cents, Jan. 23 price.

These are not the official high prices for the period. Officials were not sure of them, but they indicate approximate freeze levels.

These prices are fairly close to the legal minimum on soybeans established by USDA. The minimum

for Illinois country points had not been officially determined when the freeze order went into effect.

However, preliminary work on county differentials strongly indicated that the minimum ceilings would be \$1 over the 1950 loan rates—same as the U. S. average. For Macon county, Ill. (Decatur) a minimum of \$3.10 or \$3.11 is indicated.

USDA officials are working up grade and location differentials for soybeans, based on price history of the last three to four years. This will result in some changes from differentials under the soybean loan program.

In extreme Southeastern states, a flat rate probably will be recommended (close to \$3 a bushel), since local price data are considered unreliable.

The change will also affect a few counties in the main producing area. But the preliminary figures indicate ceiling differentials for most counties in the main belt will be \$1 a bushel over 1950 loan rates.

LATER, U. S. Department of Agriculture recommended a legal mini-

mum freeze price for soybeans at Chicago to Economic Stabilization Agency just before the Soybean Digest went to press.

The recommended rate at Chicago, to reflect the U. S. average minimum of \$3.06 a bushel, was understood to be within a cent of \$3.35.

The question of meal and oil ceilings had not been settled at press deadline.

— s b d —

## The Cover Picture

Little Asa (the American Soybean Association cartoon character) hasn't gone into the feed business, as might be inferred from his name on the feed sack on the cover picture. But he is definitely in the business of promoting the feeding of plenty of protein to our livestock population.

That hogs are very fond of the taste of soybean oil meal is well known. In fact, they like it so well that some feeders take measures to curb their appetites in that respect. But seldom does a sow register such ecstasy as the one on the cover—at the mere *smell* of the meal.

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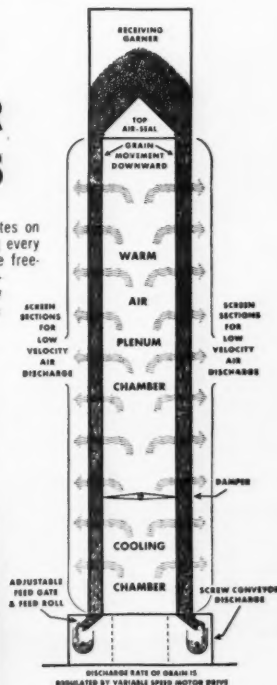
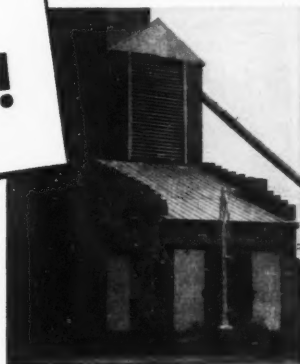
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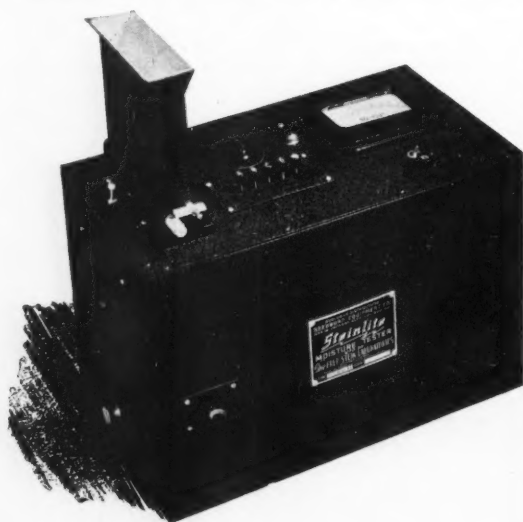
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We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here. Rate: 5c per word per issue. Minimum insertion \$1.00.

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**ANYBODY OWE YOU MONEY?**—Have you tried in vain to collect? Paste one of my comical cartoon collectors on each bill you send out and watch the results! These gummed stickers make slow payers come across, 50 assorted for 25c. Art Ross, 111-14 76th Ave., Forest Hills, N. Y.

### SEED DIRECTORY

A charge of \$2 will be made to subscribers for listing in the March and April issues. Quantity for sale and variety are listed.

#### ARKANSAS

Burdette—Burdette Plantation, 5,000 bu. state certified Dortchsoy No. 2.

Stuttgart—D. P. Oaksmith, Pioneer Seed Farms, Inc., 1,500 bu. certified Dortchsoy No. 31, 5,000 bu. uncertified Ogden, 5,000 bu. uncertified Ralston, 5,000 bu. uncertified Volstate, 10,000 bu. uncertified Tanner.

#### ILLINOIS

Manhattan—Earl Keniston, Rt. 1, 800 bu. certified Adams.

Mattoon—Leslie Daily, Rt. 1, 500 bu. certified Adams.

Pontiac—Pike Hybrid Corn Co., Box 371, certified and uncertified Hawkeye, Lincoln, Adams, Wabash, Monroe and Blackhawk, in truck or car lots, bagged or bulk, shipped to buyers' specifications.

San Jose—Kelly Seed Co., 5,000 bu. certified Hawkeye, 1,000 bu. uncertified Hawkeye, 3,500 bu. certified Lincoln, 1,000 bu. uncertified Lincoln, 600 bu. certified Adams, 800 bu. certified Wabash.

Virginia—C. C. Taylor, Rt. 2, 600 bu. certified Adams.

#### INDIANA

Evansville—J. A. McCarty Seed Co., 526 N.W. Fourth St., CL or TL certified and uncertified Wabash, CL or TL uncertified Lincoln, CL or TL uncertified Kingwa.

Fort Wayne—O. L. Bryant, Rt. 4, 900 bu. foundation certified Hawkeye.

Remington—Chester B. Biddle, 500 bu. certified Lincoln, 1,500 bu. certified Hawkeye.

Remington—Silver Lane Farms, 1,000 bu. certified Earlyana, 500 bu. certified Richland, 750 bu. certified Hawkeye, 1,000 bu. certified Lincoln.

Valparaiso—Wyckoff Hybrid Corn Co., Rt. 3, 1,500 bu. certified Hawkeye, 300 bu. certified Richland, 300 bu. uncertified Earlyana.

#### IOWA

Belle Plaine—Fred McCulloch, 350 bu. certified Adams, 94% germination, \$4.50 per bu.

Duncombe—W. K. Powers, Rt. 1, 400 bu. certified Adams.

Remsen—Frank Lenertz, Rt. 3, 1,050 bu. certified Adams, 800 bu. certified Hawkeye, 350 bu. certified Lincoln.

Sully—Ed Schnell, Rt. 1, 300 bu. certified Adams.

#### MICHIGAN

Britton—Mueller Bros., Rt. 2, 450 bu. certified Hawkeye.

#### MISSOURI

Essex—Essex Grain Co., 7,000 bu. certified Wabash.

Essex—Trailback Plantation, Rt. 1, 6,000 bu. certified Wabash, 12,000 bu. certified 8-100, 25,000 bu. certified Ogden.

Hamden—M. E. Clayburg, 1200 bu. certified Wabash, germination 91% or better, purity 99.85%.

Kirksville—L. P. Anesi, 114 E. Washington St., 1,600 bu. certified Wabash.

Palmyra—Carl Gillespie, 3,000 bu. certified Wabash.

St. Louis—Valley Farms Co., 314 Merchants Exchange, 1,000 bu. certified Wabash, 500 bu. certified Adams, 500 bu. certified Rickard Korean, 500 bu. uncertified Cypress No. 1.

Villa Ridge—Clarence H. Schroeder, 450 bu. state certified Wabash.

#### OHIO

Greenwich—W. W. Briggs, 1,000 bu. Monroe.

Tiffin—Curtis Keller, Rt. 1, 280 bu. Ohio Certified Monroe.

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- ✓ High capacity.

- ✓ Minimum maintenance.

- ✓ Granular Grind—improved finished product.

## PRATER PULVERIZERS

## IN THE MARKETS

### Beans, Oil Reach New Highs

Soybeans and soybean oil moved to new high ground for the 1950-51 marketing season during January as markets again were dominated by price control jitters and uncertainty over what might happen in Korea.

Soybean oil meal had a sinking spell during mid-January due to the piling up of supplies, but it also felt the effect of stronger markets the latter part of the month.

Immediate effect of the price control announcement Jan. 26 was to push beans, meal and oil all higher, toward ceilings.

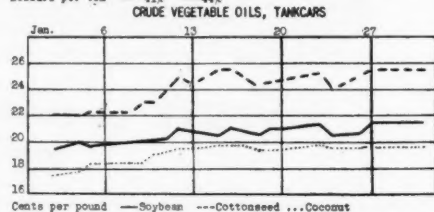
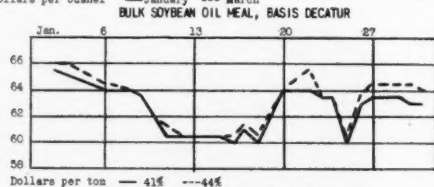
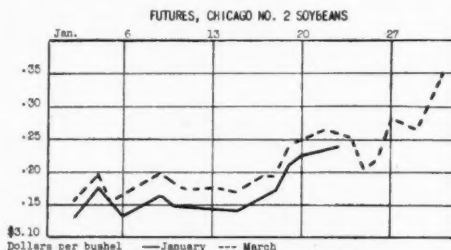
Production of soybean oil meal was heavy all month. The publication of Bureau of Census figures indicated a record annual crush of 250 million bushels and was a bearish factor.

The development of a good export business for beans, meal and oil, particularly meal, was what brought the meal market out of the doldrums. There was a sharp reversal of trend Jan. 20 after meal declined to the lowest levels since November.

An ECA official said virtually all authorizations made for protein needs abroad since Oct. 1 had been acquired.

Production and Marketing Administration of USDA announced purchase of 2 million pounds of defatted soy flour for export to Greece on ECA account. The flour was to be mixed with wheat flour for the production of bread.

Commodity Credit Corporation made export purchase contracts during the week of Jan. 8-12 for purchase of 4.3 million pounds of crude soybean oil, to be shipped to Formosa under ECA procurement.



Purchase contracts Oct. 1 through Jan. 12 totaled 13 million pounds of crude soybean oil, and 1.9 million pounds of refined soybean oil, CCC announced.

January No. 2 soybeans, Chicago, opened for the month at \$3.12½, the low and closed at \$3.24, the high. Jan. 23. March futures opened at \$3.15¼ and closed at \$3.34½.

Bulk soybean oil meal, 41% basis Decatur, opened at \$65.50, the high, and closed at \$62. Low was \$61 Jan. 18.

Crude soybean oil in tankcars opened for the month at 19½¢, the low and closed at 21½¢, the high, and generally considered the ceiling.

**MEMPHIS SOYBEAN OIL MEAL FUTURES JAN. 31\***  
March, 71.80b; May, 73.00b; July, flat 74.00; \*October 65.50b; \*December, 65.00b. Sales: 4,100 tons. a—Asked. b—Bid. n—Nominal. s—Sales. \*Bulk.

**NEW YORK SOYBEAN OIL FUTURES CLOSINGS JAN. 31\***  
New Contract—Closings: March, 21.22b; May, 20.60b; July, 20.58b; Sept., 20.40b; Oct., 20.00b; Dec., 19.85b. Sales: None.  
\* Reported by the Chicago Journal of Commerce.

#### FUTURES TRADING AND OPEN CONTRACTS IN SOYBEAN OIL MEAL ON MEMPHIS MERCHANTS EXCHANGE CLEARING ASSOCIATION

ASSOCIATION (As reported by members, in tons)					
	Volume of trading	Open contracts at close		Volume of trading	Open contracts at close
Jan. 2	10,600	199,700	Jan. 16	17,200	209,900
Jan. 3	8,700	199,400	Jan. 17	11,300	207,800
Jan. 4	14,300	203,600	Jan. 18	8,600	210,600
Jan. 5	10,500	202,900	Jan. 19	20,500	215,900
Jan. 6	6,600	201,500	Jan. 20	10,300	218,800
Jan. 8	13,000	202,400	Jan. 22	12,900	220,000
Jan. 9	8,900	203,000	Jan. 23	10,700	222,500
Jan. 10	18,400	202,900	Jan. 26	5,400	222,700
Jan. 11	12,000	203,200	Jan. 27	2,500	223,600
Jan. 12	18,100	204,100			
Jan. 13	10,300	210,600	Total 21 days		
Jan. 15	6,800	209,700	reported	232,600	

● **FACTORY USE SOYBEAN OIL.** Factory production of crude soybean oil in November totaled 216,217,000 lbs., reports Bureau of the Census. Production in October was 190,723,000 lbs., according to the Bureau's revised estimate.

Factory consumption of crude soybean oil in November was 184,272,000 lbs., in October 165,156,000 lbs., according to revised estimates.

Factory production of refined soybean oil in November was 170,013,000 lbs.; in October, 153,276,000 lbs. Factory consumption of refined soybean oil in November was 167,065,000 lbs.; in October, 156,275,000 lbs.

Factory and warehouse stocks of crude soybean oil Nov. 30 totalled 81,162,000 lbs., compared with 65,896,000 lbs. Oct. 31. Stocks of refined soybean oil totalled 51,045,000 lbs. Nov. 30; 51,274,000 lbs. Oct. 31.

Crude soybean oil entered into the following uses in November: soap 106,000 lbs.; paint and varnish 322,000 lbs.; lubricants and greases 21,000 lbs.; other inedible products 2,561,000 lbs.

Refined soybean oil was used as follows in November: shortening 56,887,000 lbs.; margarine 5,493,000 lbs.; other edible uses 4,555,000 lbs.; paint and varnish 6,305,000 lbs.; lubricants and greases 16,000; other inedible products 5,896,000 lbs.

Hydrogenated edible soybean oil was used as follows in November: shortening 27,959,000 lbs.; margarine 33,887,000 lbs.; inedible products 7,000 lbs.

● **PRICE SUPPORT.** The U. S. Department of Agriculture has announced that through November farmers had put 10,402,042 bushels of soybeans under Commodity Credit Corporation price support.

Of this amount 4,977,901 bushels were stored on the farm under loans; 5,240,364 bushels were warehouse stored under loans; and 183,777 bushels were under purchase agreements.

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**Spergon\*-SL**  
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You can invest a few cents per acre in these well-known Spergon seed protectants—and obtain an average annual yield increase of at least one bushel per acre of soybeans.

That's all it costs to avoid the results of unfavorable weather at planting time. With Spergon or Spergon-SL you can obtain maximum germination . . . better stands . . . stronger and sturdier plants . . . hence a substantial increase in yield.

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Spergon and Spergon-SL are highly effective in saving your soybean seed from blight, rot, decay and smut . . . compare the following advantages:

- compatible with legume inoculants
- effective on a wide range of seed
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- non-irritating to most operators
- effective at economical dosages
- effective for long periods after treatment and storage
- non-injurious to most seed in excess of recommended dosages
- relatively low cost per unit of seed treated
- lubricating nature results in lower seed breakage in planter.

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Naugatuck Chemical Division,

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**PRIMARY PRODUCTS EXCEPT CRUDE OIL, AT CRUDE OIL MILL LOCATIONS: PRODUCTION, SHIPMENTS AND TRANSFERS AND STOCKS, NOVEMBER 1950—OCTOBER 1950**

Products	Production		Shipments and transfers		End of month stocks	
	Nov. 1950	Oct. 1950	Nov. 1950	Oct. 1950	Nov. 1950	Oct. 31, 1950
SOYBEAN:						
Cake & meal	536,087	453,278	522,724	447,264	54,601	41,238
Lecithin	1,363,881	1,213,789	1,337,068	1,191,465	395,851	369,038
Edible soy flour, full fat	674	409	(*)	(*)	164	(*)
Edible soy flour, other	5,265	4,644	5,297	4,879	898	930
Industrial soy flour	2,110	1,644	2,026	1,973	415	331

‡ Revised. \* Not shown to avoid disclosure of individual operations.  
† Unit of measure in tons. ‡ Unit of measure in pounds.

SOYBEANS: RECEIPTS, CRUSHINGS AND STOCKS AT OIL MILLS,  
BY STATES, NOVEMBER 1950—OCTOBER 1950  
(Tons of 2,000 pounds)

State	Receipts at mills		Crushed or used		Stocks at mills	
	Nov. 1950	Oct. 1950	Nov. 1950	Oct. 1950	Nov. 30, 1950	Oct. 31, 1950
U. S.	1,383,656	2,248,947	683,969	587,106	2,436,036	1,736,349
Arkansas	72,804	106,892	22,097	13,689	146,285	95,558
Illinois	386,375	837,982	249,306	241,255	759,814	622,745
Indiana	66,050	(f)	54,330	51,102	227,190	215,470
Iowa	133,639	310,101	109,468	92,023	252,572	228,401
Kansas	26,586	(f)	18,287	13,048	71,735	43,436
Kentucky	42,889	61,639	18,602	14,488	72,424	28,137
Minnesota	51,323	62,643	19,964	18,513	57,075	55,006
Missouri	68,484	106,255	24,881	23,041	135,354	91,751
Nebraska	12,943	(f)	5,075	3,949	31,732	23,864
N. Carolina	63,083	3,898	10,460	1,367	55,258	2,635
Ohio	182,498	3,995	70,161	62,199	263,366	151,884
Oklahoma	18,011	15,029	9,395	7,743	10,702	11,861
Texas	(f)	2,896	(f)	(f)	14,682	2,553
All other	268,461	552,244	72,088	48,689	377,867	193,623

\* Revised. † Included in "All other" to avoid disclosure of individual operations.

SOYBEAN PRODUCTS: PRODUCTION AND STOCKS AT OIL MILL LOCATIONS, BY STATES, NOVEMBER 1950—OCTOBER 1950

State	Crude oil (thousand pounds)				Cake and meal (tons)			
	Production		Stocks		Production		Stocks	
	Nov. 1950	Oct. 1950	Nov. 30, 1950	Oct. 31, 1950	Nov. 1950	Oct. 1950	Nov. 30, 1950	Oct. 31, 1950
U. S.	216,217	*190,728	31,532	*29,983	556,087	*453,278	54,601	*41,238
Arkansas	6,295	3,411	1,089	537	17,523	10,425	4,141	1,512
Illinois	82,829	*82,484	6,571	*8,208	187,405	*179,872	11,998	12,414
Indiana	17,878	16,236	1,125	2,445	43,027	39,905	2,507	1,721
Iowa	34,742	29,828	7,121	5,498	88,946	73,840	3,949	4,691
Kansas	5,660	4,357	1,112	1,055	14,758	10,249	1,398	885
Kentucky	6,285	5,045	(1)	(1)	14,490	10,922	541	282
Minnesota	5,509	5,232	1,135	1,663	15,888	12,285	2,750	781
Missouri	7,099	6,577	962	1,388	20,489	18,231	1,305	1,383
Nebraska	1,521	1,173	313	509	4,330	3,323	(1)	318
N. Car.	2,855	375	790	159	81,419	1,062	3,246	(1)
Ohio	22,176	20,885	8,341	4,577	56,262	48,679	2,952	3,355
Oklahoma	2,692	1,055	350	(1)	7,525	5,069	3,872	2,440
Texas	10,945	10,945	(1)	(1)	29,449	(1)	518	318
All other	20,876	*13,965	7,123	33,194	49,814	*34,416	15,513	11,456

\* Revised. (1) Included in "All other" to avoid disclosure of individual operations.

● **CONTROLS REMOVED.** The U. S. Department of Agriculture announced Jan. 12 the removal of several additional fats and oils from import control under Public Law 590 (81st Congress).

The action, effective Jan. 15, is in line with the Department's general policy of removing import controls as soon as practicable. The commodities removed from import control are: crude, refined, and denatured cottonseed oil, soybean oil, and sunflower seed oil; lard compounds and lard substitutes; combinations and mixtures of animal and vegetable oils; soybeans, and sunflower seed.

The only commodities remaining under import control under Public Law 590 are butter and butter oil, peanuts, peanut oil, and peanut butter, flaxseed, flaxseed screenings, linseed oil, rice and rice products.

## SOYBEAN DIGEST



● **STOCKS ON FARMS.** Stocks of soybeans on farms Jan. 1 totaled 97.7 million bushels, the highest of record, according to the Bureau of Agricultural Economics crop reporting board. The previous high mark was 88 million bushels on Jan. 1, 1943, when a large part of the 1942 crop had not yet been harvested because of weather conditions. On Jan. 1, 1950, stocks amounted to 61 million bushels, about one-third less than this year. The Jan. 1, 1944-49 average is 51 million bushels.

Even though farm stocks are high, the disappearance of 191 million bushels for the period October through Dec. 1950 is the highest of record. Disappearance from farms during the corresponding period of 1949 amounted to 172 million bushels. The six-year average disappearance for the period is 149 million bushels.

About 90 percent of the farm stocks are concentrated in the North Central area with the largest stocks in Illinois at 28 million bushels followed in order by Iowa at 20 million and Indiana at 13 million bushels.

**STOCKS OF SOYBEANS ON FARMS JAN. 1**


State	Average 1943-49	1950	1951	State	Average 1943-49	1950	1951
Thousand bushels				Thousand bushels			
N. Y.	130	58	76	Del.	266	330	219
N. J.	133	71	136	Md.	279	228	197
Pa.	221	147	173	Va.	647	800	935
Ohio	6,670	5,972	9,060	W. Va.	8	5	6
Ind.	8,221	10,036	12,601	N. C.	1,575	1,014	1,484
Ill.	18,022	19,656	28,426	S. C.	69	187	232
Mich.	931	501	1,027	Ga.	45	87	122
Wis.	318	161	226	Ky.	416	749	813
Minn.	2,401	4,722	8,192	Tenn.	226	375	693
Iowa	10,817	11,403	20,286	Ala.	149	104	81
Mo.	2,447	1,980	7,122	Miss.	694	535	1,296
N. Dak.	32	115	194	Ark.	572	524	1,518
S. Dak.	131	158	429	La.	189	112	180
Nebr.	192	218	464	Okla.	29	21	71
Kans.	528	584	1,422	U. S.	56,873	60,853	97,671

● **SOYBEAN STOCKS.** Production and Marketing Administration's commercial grain stock reports.

	Jan. 3	Jan. 9	Jan. 16	Jan. 23
Atlantic Coast	701	670	744	396
Gulf Coast	326	288	346	431
Northwestern and Upper Lake	1,474	1,541	1,490	1,466
Lower Lake	6,002	5,902	6,259	5,988
East Central	2,736	2,771	2,662	2,678
West Central				
Southwestern & Western	2,675	2,578	2,291	2,147
Total current week	13,914	13,750	13,792	13,086
Total year ago	16,133	15,399	14,839	14,026

● **SHORTENING SHIPMENTS.** Reported by the Institute of Shortening and Edible Oils, Inc., in pounds.

Week ending Dec. 30	4,775,588
Week ending Jan. 6	4,986,367
Week ending Jan. 13	5,315,721
Week ending Jan. 30	6,340,158



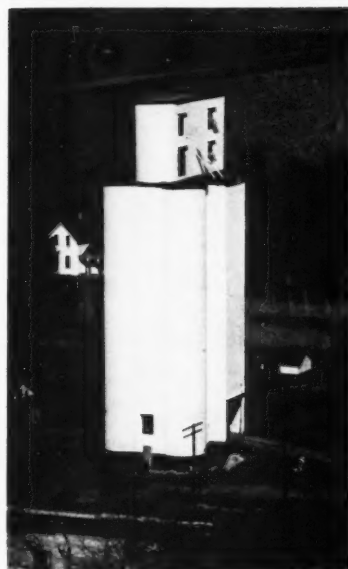
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# Says Take Advantage of B-12 in Soybeans

TO THE EDITOR:

On page 14 of the January number of your Digest is an article on "B-12 and Antibiotics," which tells about adding B-12, etc., to the soybean meal. Unfortunately, this article by Johnson of Ames says nothing about the B-12 in the soybean, in its oil, or in the meal and what temperature of extraction and methods of extraction (solvents, etc.) do to the B-12 the plant has initially put into the seed before processing. The article is so given to "buying our way out" that it fails to see that we first block out the way and then hunt for one.

It would seem well that some agri-



WM. A. ALBRECHT

cultural experiment station bio-chemically equipped to test for B-12 and able to do pilot-plant extraction (chemical engineering) be asked to work on this problem. Some nutritionist may well lead the thinking.

Interested as we are in trace elements (cobalt in B-12, copper, etc.) we would like to see the American Soybean Association market its own B-12 which there is in the beans, and not make soybean meal the reason for buying B-12 from the chemist. Probably if soybeans deliver B-12 in feed then they will carry along with it additional nutritional values not found in the combination of high-temperature-extracted bean meal "enriched" with chemically prepared B-12.

This matter is presented merely as a thought stimulator for you in support of the good quality the bean has in its own production of B-12 and no need for "chemical enrich-

ment."—*Wm. A. Albrecht, chairman, department of soils, University of Missouri, Columbia, Mo.*

Comments, please.—Editor.

## Says IAA Wrong on Stand

TO THE EDITOR:

In light of world conditions, I admit I was wrong last spring when I wrote to you that I was in favor of soybean acreage controls. Too bad the Korean war and world conditions proved me wrong.

I am a very strong farm bureau member, but this is one time I think the Illinois Agricultural Association is wrong in asking the Illinois legislature to retain the ban on colored oleo.

Twenty-eight hundred bushels of soybeans were raised on this farm, on 83 acres. Enclosed please find check for \$10 for which extend my subscription for a year to the Soybean Digest. Use the remainder of the amount to help bring the factual evidence to the Illinois legislature on the removal of this ban on colored oleo.

I'm also going to write to my legislators and senators to vote to repeal this law.—*Bruce A. Schwartz, Mansfield, Ill.*

## Cottonseed Folks Cooperate

TO THE EDITOR:

We have noted in the January issue of The Soybean Digest on Page 6, your clever illustration indicating

the kind of cooperation needed in the promotion of protein products.

You will be interested to know that here in the Southeast we do actively join with your Association, as well as the Peanut Council, in an effort to promote better use of protein products in our field work with livestock men.

In behalf of Mr. A. L. Ward, our director, I congratulate you and your staff on the sound promotional work which the Soybean Association is carrying on and we hope that whenever we can be of service to you or your staff that you will call on us.—*J. Van Rogers, Jr., southeastern representative, National Cottonseed Products Association, educational division, Atlanta, Ga.*

Mr. Van Rogers refers to the Little Asa cartoon entitled, "They Need Our Help, Too!"—Editor.

## Soybeans Under Irrigation

TO THE EDITOR:

We have been growing soybeans for the past three years under irrigation and with fair success—around 40 bushels per acre. We are raising certified Hawkeyes at present.

We are supposed to be too far west for soybeans to grow.—*Max W. Junkin, Junkin's Hereford Ranch, Smithfield, Nebr.*

## Fred Allen Said It

It is hard when picking soybeans To tell the boy beans from the girl beans.

—Fred Allen on Information Please.

## THE PRESS

### Butter People Are Still Kidding Selves

About a year ago, certain Iowa dairy leaders suggested the advisability of removing Iowa's 5c-per-pound tax on oleomargarine as a defense measure to deprive the oleomargarine industry of a propaganda weapon. To their great surprise, that proposal was opposed vehemently by Iowa taxing authorities—and no wonder, considering that for the first nine months of the current year this

tax has yielded the state in excess of \$463,000.

The important thing, from the standpoint of the dairy industry, is that the public be made acquainted with the fact that Iowa's oleomargarine tax remains on the statutes of that state as a revenue measure and not as a punitive measure, as the oleomargarine industry would like the consuming public to think.—*Dairy Record.*

## LETTERS



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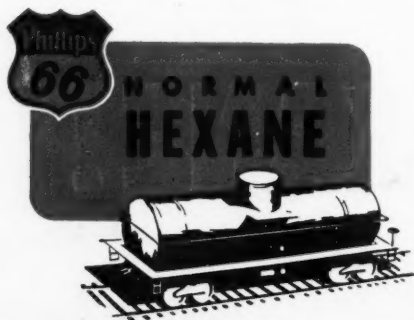
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